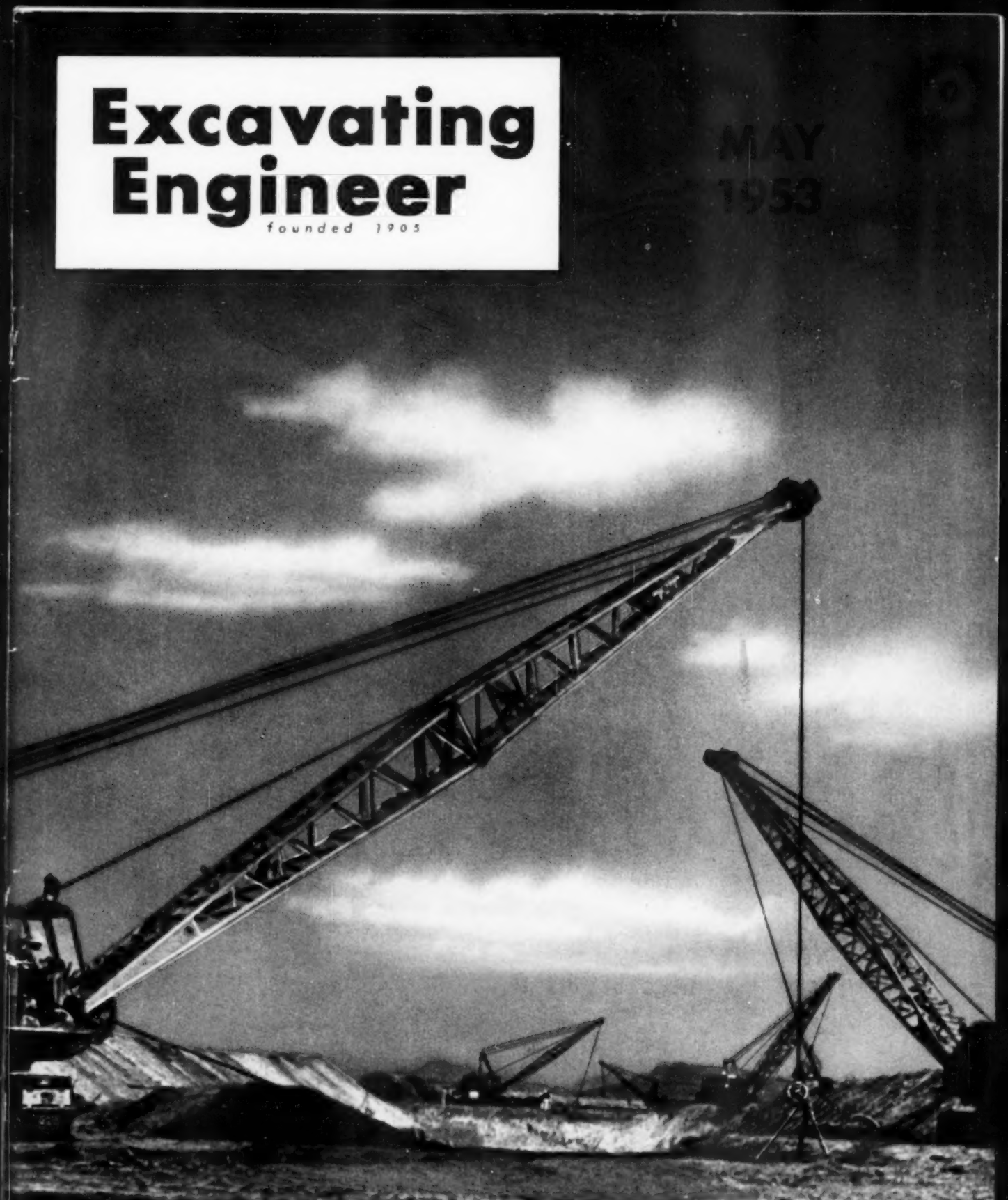
Excavating Engineer

founded 1905

MAY
1953



WATER WILL REACH REMOTE MEXICO VALLEY when these draglines and the men and machines which follow them have all passed through. Construcciones Hidraulicas, S. A., owns the excavators shown digging canal. Photo-article begins on page 18.

NOW...

Fast Smooth Cycle

COUNTS MORE THAN EVER

and it's yours with Bucyrus-Erie Excavators

SPEED is a traditional characteristic of Bucyrus-Erie excavators . . . and speed in the individual dig, swing, and dump operations only tells part of the story.

In Bucyrus-Erie machines, working speed starts on the drawing board, where cycle functions are **balanced** with one another (as well as being designed fast in themselves) . . . and co-ordinated with proper weight distribution. Adding smooth, steady power . . . liberally used anti-friction bearings . . . easy-filling dippers . . . and direct-action mechanical control gives them the overall production speed that has made them the standard of the industry.

Eliminating lost time and waste motion is one big way to boost output wherever excavators are used. Now . . . when that counts more than ever, you can count on Bucyrus-Erie excavators to "deliver the goods."

58E52C

BUCYRUS-ERIE COMPANY, South Milwaukee, Wisconsin

⅜ to 4-yd. Gasoline, Diesel, Single-Motor Electric Excavators
Hydrocrane
Hydrohoe

Most Compared

BUCYRUS ERIE

Most Preferred

Preventive Maintenance is just one of many important topics covered in a new 32-page booklet — "Ways to Make Your Excavator Work Harder — Live Longer." It's also loaded with valuable hints on lubrication, adjustments, engine care, safety and many other phases of excavator care. Write for your copy now!

YOU hold the watch!

If you want to know whether you're getting the most out of your earthmoving rigs, here's how to find out.

On your own job, under any conditions you choose, *time* the work cycle of a Cat* DW21 Tractor and No. 21 Scraper against any other make of similar equipment. Or, if you're using four-wheel tractors, make the same comparison with a DW20 or a DW10 unit. Check the yardage handled in an hour—or a day.

We have enough confidence in the big yellow Caterpillar rigs to believe they'll sell themselves in any such test. And your dealer is ready to give you a demonstration. Fair enough? Call him today.

Caterpillar Tractor Co., Peoria, Illinois.

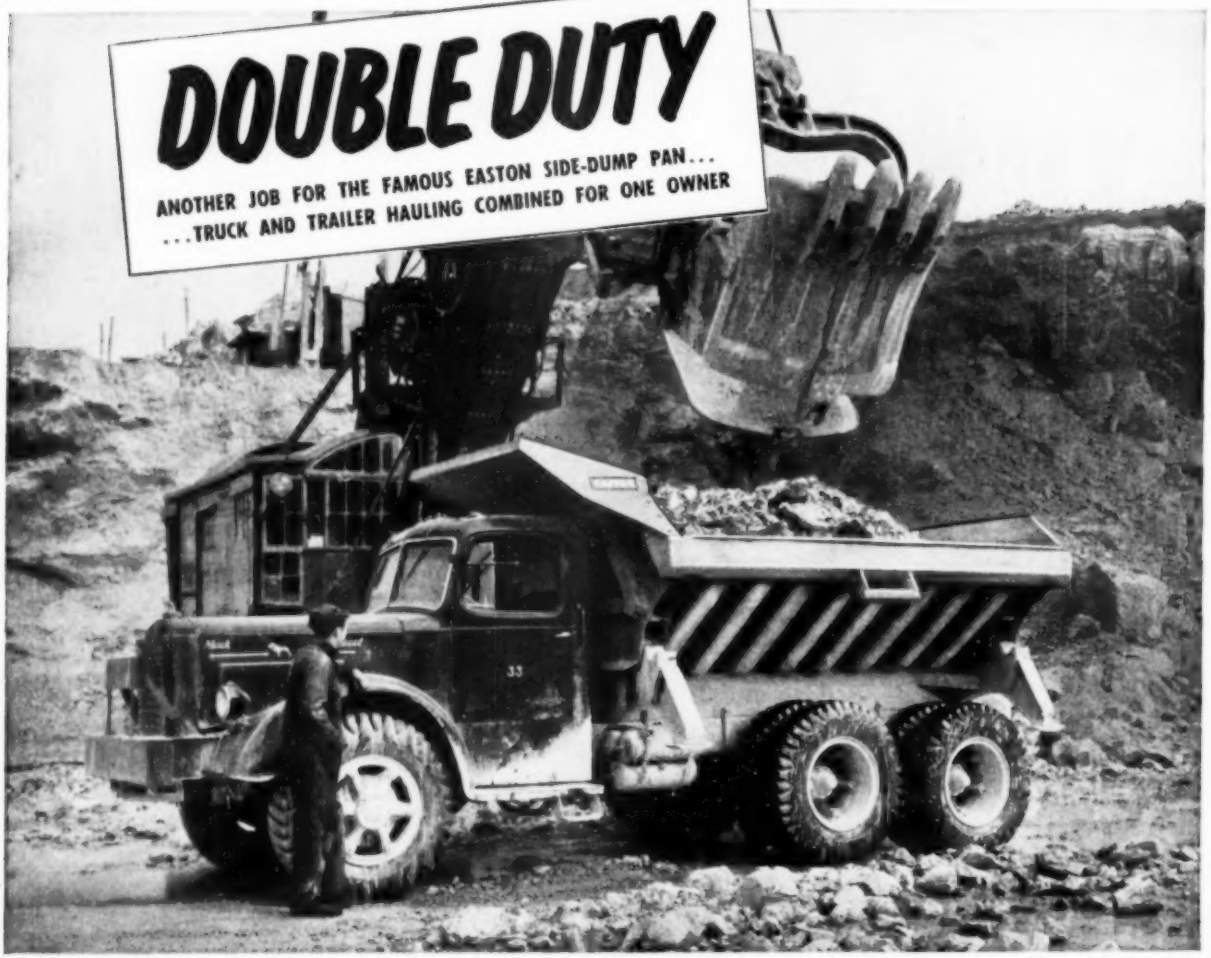
CATERPILLAR*

*Both Cat and Caterpillar are registered trademarks — ®

NAME THE DATE... YOUR DEALER WILL DEMONSTRATE

DOUBLE DUTY

ANOTHER JOB FOR THE FAMOUS EASTON SIDE-DUMP PAN...
...TRUCK AND TRAILER HAULING COMBINED FOR ONE OWNER



▲ **HERE'S PLENTY OF GO** for any grade — 15 tons in an EASTON BP pan type body mounted on a six-wheel chassis

but only a side-dump can do this

▼ **DOUBLE THE PAYLOAD** — the dump body teamed with an EASTON TP trailer for another haul on the same property

YOU GET LOWEST COST PER TON when your haulage system is custom-fitted to your property. Fortunately, a qualified EASTON haulage survey costs you nothing. Why not take advantage of EASTON's broad experience? Write today.

EASTON CAR & CONSTRUCTION COMPANY · EASTON, PA.

EASTON

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Excavating Engineer

founded 1905

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"Plain Primacord will hug the Plastic in a tight double hitch...

"I use Plastic Reinforced Primacord for unusual wet conditions, and in deep holes, or wherever field shots must stand a long time before blasting. It has a tough, plastic cover and will take a lot of punishment. It is not affected by high summer heat or winter cold.

"I use a trunk line of flexible Plain Primacord and make a double half hitch around the Plastic Reinforced branch line at a right angle, like this. The textile covered Plain Primacord grips securely in a tight double loop around the plastic cover without slipping.

"Tight right-angle Primacord connections all along the line go a long way toward giving you a good shot every time."

Ask your explosives supplier or write for further facts to

THE ENSIGN-BICKFORD COMPANY
Simsbury, Connecticut
Also Safety Fuse Since 1836

Here **Plastic Reinforced Primacord** is used for the branch line, and **Plain Primacord** for the trunk line. Note the double half hitch around the plastic cover. It pulls up tight and stays that way.

Other brands to serve your needs are: **Reinforced Primacord,** for deep holes and resistance to abrasion; and **Wire Countered Primacord,** for deep, ragged holes.

P-3

Use PRIMACORD.

The PROVED and APPROVED DETONATING FUSE

DIGGING PROBLEMS

are not the only problems!

Northwest Crawlers get you there and back!

That job you're on now? No problems perhaps, but what of tomorrow?

That's the thing about Northwests! They meet the daily, unexpected problems that every job presents.

Take Northwest Crawlers! They have proved themselves over miles of travel. Where there are grades to climb, streams to ford or rough going to negotiate, your Northwest gets you there — and back.

It's a *real* Rock Shovel — you're set for the toughest digging — sure of the highest output, in any digging. It is quickly converted and you have a recognized leader whether you operate it as a Shovel, Crane, Dragline or Pullshovel.

Whether at sea level or two miles up you are equipped with a properly engineered power plant plus the Northwest Dual Independent Crowd that utilizes force many other shovels waste entirely.

These things are worth money. They are advantages that are worth planning for. Now is the time to learn about Northwest features. Let us tell you the whole story.

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SHOVELS • CRANES • DRAGLINES • PULLSHOVELS

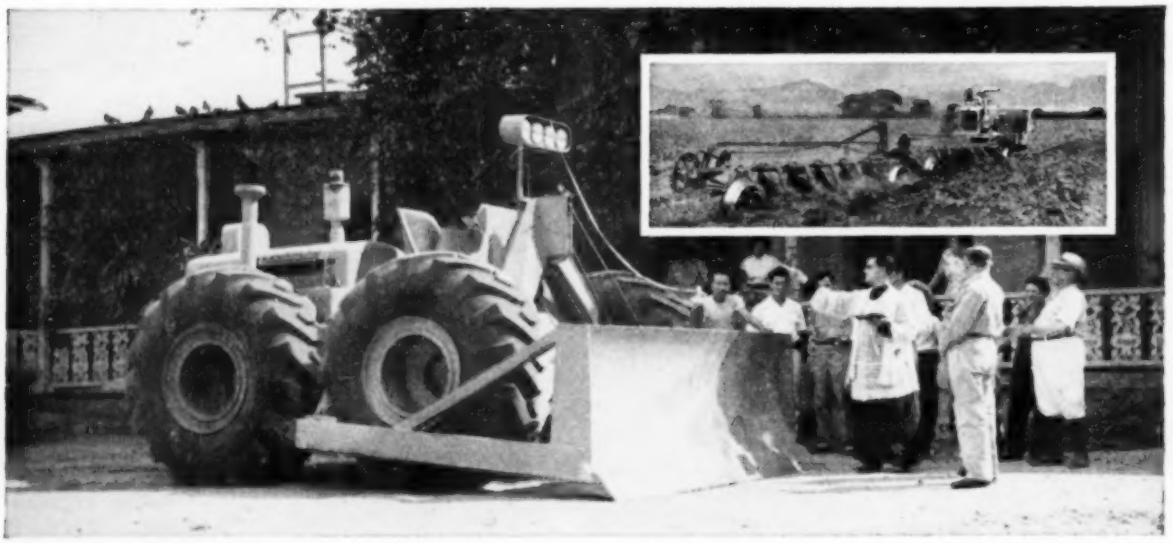
Advertisement

LeTourneau pictures of the month . . .

DIAMOND MINER — Near Kasaï, Belgian Congo, 9 C Tournapulls and 5 Tournatractors are stripping 7,850,000 cu yds of overburden to uncover industrial diamond deposits. Push-loaded by a 186 hp Tournatractor, each Tournapull removes 6 to 7½ loads (59 to 73 pay yds) of clayey sand hourly on a 1-mile cycle.

5 JOBS DAILY — "Tournatractor does the work of 2 crawlers," reports Plant Supt of an Arkansas bauxite mine. Speedy rig cleans around two 2½-yd shovels . . . dozes ore into 8 grizzlies . . . maintains rock stockpile. Rig also pulls "gyp" wagon to dump . . . spreads waste material — does all these jobs in a 12-hr shift.

40% LOWER COSTS — No, these rocks weren't "frozen" into the Tournarocker. High-speed photography makes them look like it, but actually dump took only 5 to 10 seconds on this W. Va. rock job. Owner C. E. Wetherall also reported his D Tournarockers gave 40% lower hauling costs than trucks. Output for his two 9-ton Tournarockers on typical 1400-ft cycles: 144 pay yds of shovel-loaded rock hourly.



DOUBLE BLESSING — In ceremony, traditional all over South America, padre blesses new Tournatractor. Hacienda Pata-Poo, Peru owner of the unit, has received a blessing, too. Their 19 mph Tournatractor, pulling 2 gang disks, deep-plows 2½ acres hourly — twice crawler output. Tournatractor also pulls 24-in. ripper for sub-soiling. This tool digs 20 in. deep into hard clay, brings up sub-surface water unobtainable with other methods. Explains Plantation Manager de Miguel, "The extra water makes our cane grow healthier, weigh more, and increases sugar content — thus producing more sugar and more profits."

Advertisement

performance reports from around the world

BAGDAD HAULER — This 40-ton Tournarocker is one of Bagdad Copper Corp's haul units. The company, which mines copper at Bagdad, Ariz, also owns a 50-ton Tournarocker. Cycle of 4500 ft takes the 40-ton 'Rockers 11.2 min, despite 650 ft of 10% adverse grade and narrow haul roads. Cycle time includes 2 min to load from a 4-yd shovel, and ½ min to spot and dump. Disc-type 4-wheel air brakes let operator haul in 3rd gear along the narrow benches with complete confidence and safety.

100 YDS PER HR WINS JOB — On competitive demonstration at a Greenville (N.C.) asphalt plant, this D Tournapull stockpiled 20 loads of sand hourly. Each of two 91 hp crawlers, working same 450 ft haul, brought in only 6 loads hourly. All rigs self-loaded 5 bank yds per load. Based on results, Company President A. J. White bought the Tournapull.

22% MORE COAL — Stockpiling coal for a power station in Rhode Island, Tournatractor dozed 16,850 cu ft (420 tons) of coal in 2 hrs . . . outproduced a crawler-tractor working under identical conditions by 77 tons (or 22%). Coal was moved 190 ft down a gradual slope, then over a steep 25-ft bank.

Cont'd on next page

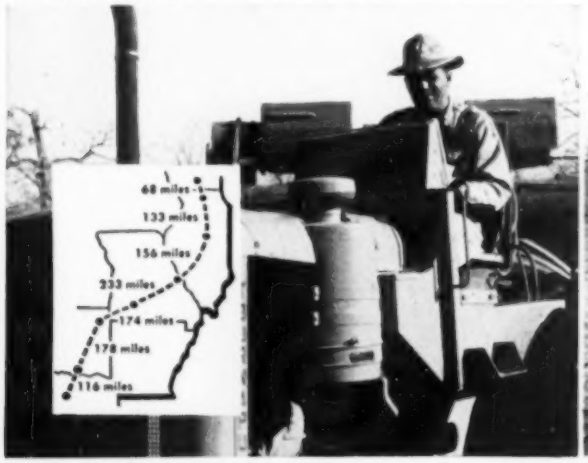
Advertisement

LeTourneau pictures of the month (cont'd) . . .

336 HR JOB IN 12 HRS—When a last-minute telescope breakdown threatened success of the US Navy and National Geographic Society's Solar Eclipse expedition to Khartoum, the Anglo-Egyptian Sudan Government came to the rescue. Its versatile 15-ton Tournacrane carefully hoisted and positioned the delicate 2-ton dish-assembly. The job, which would have taken about 336 man-hrs if done by hand, took only 12 man-hrs with the Tournacrane. Instead of missing the Eclipse they had traveled 7000 miles to see, astronomers not only saw the entire event, but had plenty of time to test and re-adjust settings.

"TOUGHEST TUNNEL"—Halfway into a 3226-ft tunnel for B & O RR, Chicago Contractors Bates & Rogers struck an abandoned coal mine that made their routine job "one of the toughest RR tunnels ever built." Ten-yd Tournarockers, with 12¾-ft turn radius, were only haulers that could turn non-stop in the 31-ft passage. Trucks had to be turned on a skid plate.

OUTLASTS TRACKS, 4 TO 1— This material may look like powder, but it's abrasive sand. It wears out crawler tracks in 4 to 6 months, yet C. E. Ulery, president of Asphalt Paving Inc., Jacksonville, Fla., estimates tires will last at least 2 to 3 years. Despite 100 lbs rolling resistance, Tournapull moved 9 loads (55 pay yds) hourly on 2700 ft cycles.



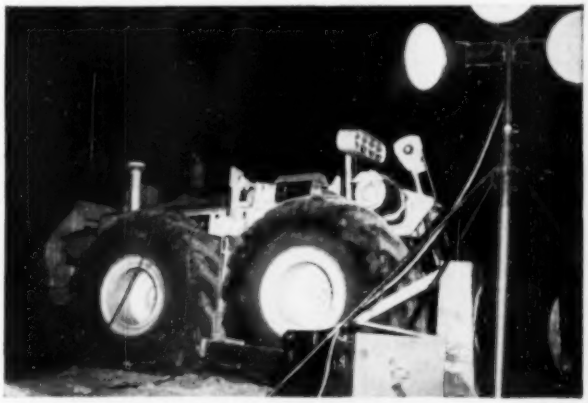
1058 MI FOR $60—In a move which dramatically illustrated the roadability of a D Tournapull, Bill Kastner traveled 1058 miles from his home in Madison, Wis, to Arlington, Texas. It was D Tournapull's longest solo highway trip of the year. He started at 2 pm Jan 3 at Madison. By 6 pm that day, he had arrived at Rockford, Ill . . . 68 mi in 4 hrs. The second day he ran into a blizzard and made only 133 mi to Bloomington, Ill. His next stop, on Jan 5, was St. Louis, 156 mi further. On Jan 6 he drove 233 mi to Springfield, Mo . . . Jan 7, 174 mi to Pryor, Okla . . . Jan 8, 178 mi to Durant, Okla. At 1:30 pm Jan 9, Kastner arrived in Arlington, Tex. In 6 days, he had driven 1,058 mi (all by daylight) . . . used 180 gals of fuel . . . average, 5.9 mi per gal. Total expenditure for fuel, lodging and food: $59.98. Saving over rail freight: $450.

Advertisement

performance reports from around the world

8 JOBS FOR JOHNS-MANVILLE — Even though the temperature often reaches 50° below zero, Canadian Johns-Manville works their Tournatractor 24 hrs a day, 6 days a week at their asbestos pit near Matheson, Ontario. One winter month, rig put 535 hrs in on 8 scattered jobs (other hrs went for job-to-job travel, lubrication, etc.). Of total time, unit spent 238 hrs dozing ore to crusher, cleaning around 4 shovels, and maintaining ore stockpile. Another 87 hrs went into tailings-dump maintenance. 62 hrs into waste-dump maintenance. Tournatractor worked 43 hrs towing compressors, wagon-drills, and other mine equipment. For 62 hrs, it plowed snow — in one typical 6¾-hr period, traveling 30 mi and opening 26 mi of road. For 43 hrs, it did such odd jobs as clearing rock and clay overburden, and helping shovels up steep grades. Its mechanical efficiency: 95%.

GOOD AS 4 MACHINES — "My D Roadster has replaced 3 trucks and one ¾-yard shovel on this job, and eliminated the wages of 3 hired men," says Sam Coffman of the Bowie Sand and Gravel Co. in Texas. His "D" strips the pit . . . selectively self-loads sand and gravel . . . stockpiles materials.



EMERGENCY GENERATOR — Another use for Tournatractor — as a portable generator for operating lights and power tools. For further information on any machine shown here, write to R. G. LeTOURNEAU, INC., Peoria, Ill.

Tournapull, Tournarocker, Tournacrane, Carryall—Trademark Reg. U. S. Pat. Off. Tournatractor—Trademark Pic. 397-M

Here's a Big Advance in Bulldozing Performance

This bulldozing team introduces new dirt-moving ability; a new, narrower-width blade for transporting by highway; new ease of servicing and operation — all at a new low cost.

Here are some specific characteristics that make it such a productive combination for many dozing jobs:

A great tractor. This popular Allis-Chalmers HD-9 Tractor has power, weight and balance that put it in a class by itself.

A revolutionary team. Here is a tractor-dozer combination, designed as a unit, which compares in performance with conventional "dozers" weighing from five to six thousand pounds more.

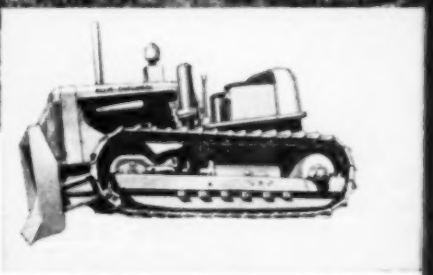
No push-beams. A completely new idea in bulldozer engineering, the Baker 9X blade is mounted directly to the HD-9 main frame. Tractor main frame and dozer are raised and lowered as a single unit.

Lighter weight — better stability. Almost 1,150 lb. lighter than standard dozer. Costs less to buy. And with lighter blade mounted 15 inches closer, tractor center of gravity is not upset. No excess wear on front truck wheels and support rollers.

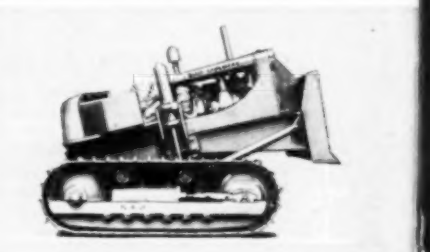
Big dirt mover. Because of extra clearance, greatly increased track oscillation and better balance, this team is a phenomenal performer in mud and tough going. And with blade fully six inches higher, capacity is kept on par with conventional blade.

Simplified servicing. 1,000-hour lubrication of truck wheels, idlers and support rollers. Dozer mounting does not interfere with engine accessibility. No removal of major tractor assemblies.

Easy to operate. Just by pulling a single lever, operator can shift from any of the six forward speeds to any of the three high-speed reverses. This, plus narrow, frame-mounted blade, makes the HD-9 particularly fast and maneuverable.



BITES DOWN HARD. Full 13-in. drop below ground, positive down pressure plus steep angle of penetration mean fast digging.



HIGH LIFT. Full 37 in. above ground. Excellent for pushing over trees and stumps and clearing brush.

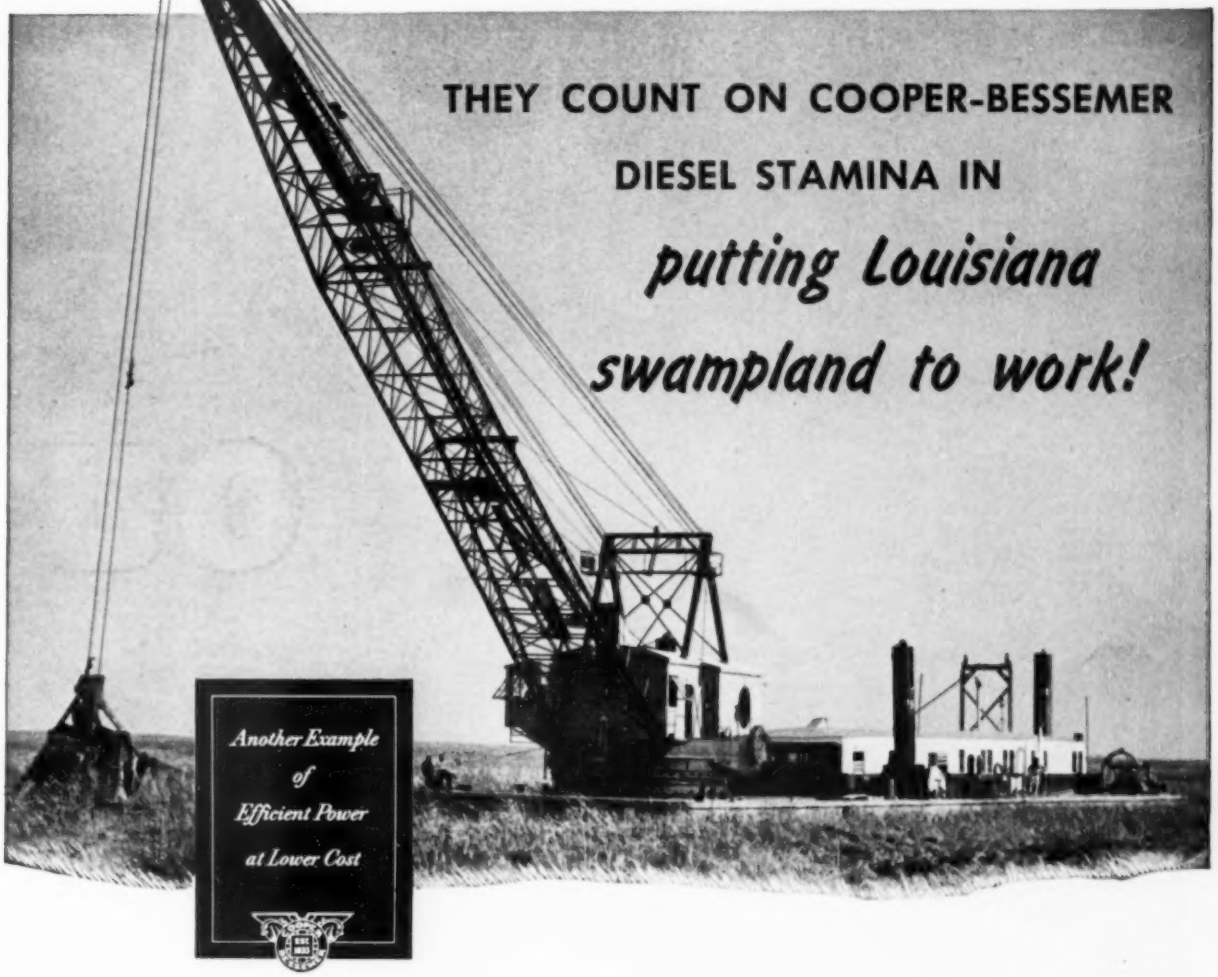
EASIER HIGHWAY TRANSPORT. Blade is only 8 ft. wide — no transport permit needed.

THE FINEST LINE ON EARTH

ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE 1, U. S. A.

150-ft. spud barge *A. H. Stall*, with its Cooper-Bessemer-powered Bucyrus-Erie 200-W dragline, is owned and operated by J. Ray McDermott & Co., Harvey, La., and has been in highly successful use on various excavating jobs since January 1951. On this operation the unit is swinging a 6-yd. clamshell bucket on a specially extended 140-ft. boom.



THIS big barge-mounted Bucyrus-Erie dragline, Cooper-Bessemer-powered, is working month after month, 24 hours a day in the swamplands below New Orleans. Here, with this machine, J. Ray McDermott & Company is moving almost 3 million yards of muck to build an endless levee for two huge fresh water reservoirs. In turn, these reservoirs will store millions of gallons of fresh Mississippi water for the mining of sulphur in a vast new dome beneath the marshes.

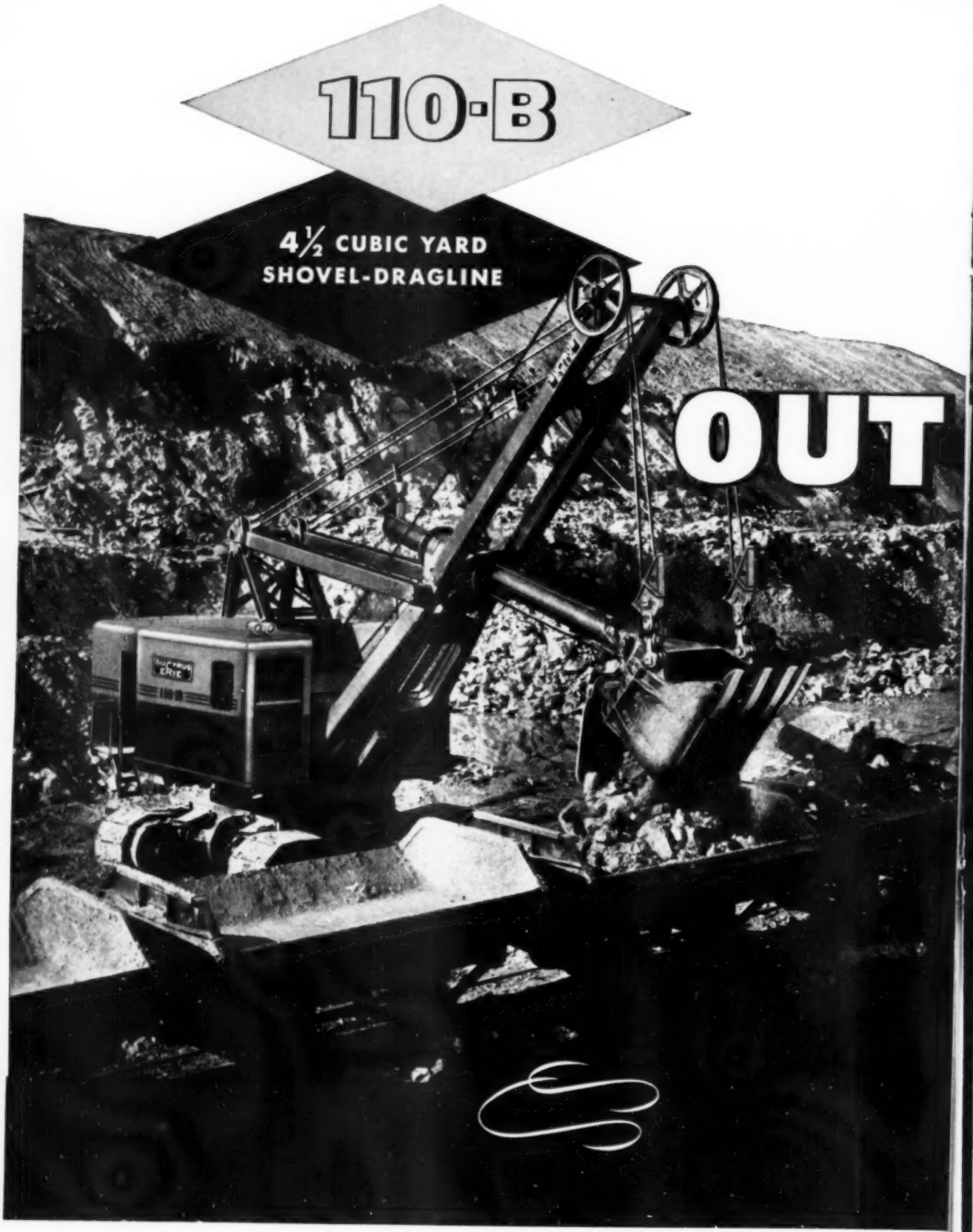
The levee will be 6 miles long, 100 feet wide at the base, and 12 feet high with a 10-ft. crown — an 8- or 9-month excavating job! And on a big, hard-to-reach job like this you soon learn the *extra* value of diesel power you can count on for continuous, trouble-free performance.

Cooper-Bessemer diesels are designed for all kinds of service. They're your best bet when it comes to heavy-duty power.

The Cooper-Bessemer Corporation

MOUNT VERNON, OHIO — GROVE CITY, PENNA.

New York Washington, D. C. Bradford, Pa. San Francisco Houston, Dallas, Greggton, Pampa and Odessa, Texas Seattle Tulsa Shreveport St. Louis Los Angeles Chicago Caracas, Venezuela Cooper-Bessemer of Canada, Ltd., Halifax, Nova Scotia Gloucester, Mass. New Orleans, La.


110-B
4½ CUBIC YARD
SHOVEL-DRAGLINE
OUT

another slugger in the PUT lineup

Now — taking its place in the outstanding line of Bucyrus-Erie heavy-duty quarry and mine excavators is the field-proved 4½-yard 110-B — a convertible shovel-dragline which can give you bigger output in rock, ore, or dirt at lower cost than any other machine of like capacity on the market today.

Like the larger 150-B (6-yard) and 190-B (8-yard) machines, the 110-B features Bucyrus-Erie's exclusive shovel front-end. The strong, light two-section boom reduces weight and speeds digging cycle, yet provides ample strength for tough digging. Tubular dipper handle, free to rotate in saddle block, permits digging with one corner of dipper without introducing torsional strains. Powerful effective rope crowd reduces swing inertia because crowd machinery is located on revolving frame. And, twin dual hoist ropes concentrate power where needed to pull dipper through toughest banks.

Before you buy any machine in the 4½-yard range, investigate the 110-B. It will give you consistently large output at lowest cost per yard. For detailed information, write today for Bulletin 110-B-1. 3L53C

BUCYRUS ERIE

SOUTH MILWAUKEE, WISCONSIN

Another in the great modern line of Bucyrus-Erie quarry and mine excavators — yard for yard, dollar for dollar, pound for pound, the finest ever built.

NOW... Euclid Scrapers ...BETTER THAN EVER!

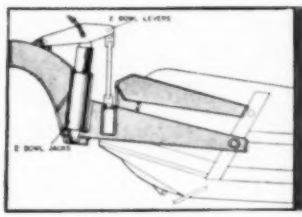
CHECK THESE OUTSTANDING FEATURES:

- Lever actuated independent control of bowl lift, apron and ejector
- Only 12 feet of cable
- 10 speed transmission
- Loaded top speed 28 m.p.h.
- Completely interchangeable jacks
- Reversible and interchangeable cutting blades
- Simple, compact hydraulic assembly.

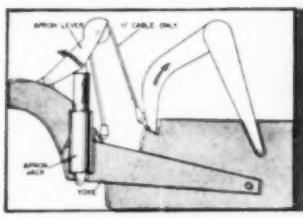
THIS improved lever-type 15.5 yd. Euclid Scraper sets a completely new standard for scraper design, performance and serviceability. It has many profit making features that are not available in any other scraper on the market.

For example, the 10 speed transmission means faster average speeds and more pay trips per hour. Lever action using interchangeable hydraulic jacks eliminates all but 12 feet of cable. A new simplified control system consists of internally mounted pump, valve and tank in one compact assembly—there are no suction hoses and complicated connections. The planetary drive axle—the same model used in thousands of Rear-Dump Euclids—is easy to service and has proved its efficient long life performance on hundreds of tough jobs.

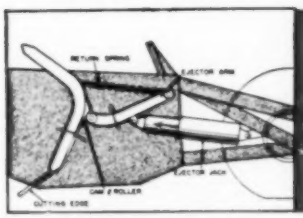
Yes, "Euc" Scrapers are better than ever—in performance, production, maintenance cost and job availability. See your Euclid distributor for all the facts that add up to less down time, lower costs and more profit.



High Bowl Lift



Fast Apron Opening



Positive Power Ejector

The EUCLID ROAD MACHINERY Co.

CLEVELAND 17, OHIO

CABLE ADDRESS, YUKLID. CODE: BENTLEY

EUCLIDS *Move the Earth*

OPERATION:

"PLANT RELOCATION"

by Roger Sherman with ROGER TRAILERS

It was a super-colossal "moving day" for Hamilton Standard Division, United Aircraft Corporation.

Roger Sherman of E. Hartford, Conn., tackled the job. 4000 machines were moved by a circuitous route to a new plant location 15 miles away.

Specialized rigging and hauling experience, plus the strong "back" of his new special-built Rogers 135-ton low-bed trailer, helped "turn the trick."

One huge plating machine 45 feet in length loomed up as a tough "nut to crack."

Original estimated moving time was 20 days. By handling it in one piece it was moved in 2½ days.

We are certain Rogers Trailers will meet your everyday requirements and handle those extra-tough jobs that often come your way.

We'll be glad to chat with you.

Little tots along the moving route are awed by the sight of the towering press and the huge trailer.

The 95-ton hot-form press is loaded on the big Rogers 135-ton DPG Power-Lift Detachable Gooseneck Trailer.

DISTRIBUTED IN FORTY-SEVEN STATES AND EIGHT CANADIAN PROVINCES

ROGERS HEAVY DUTY Gooseneck Trailers

EXPERIENCE builds them... PERFORMANCE sells them...

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In dead end spots such as this, two-way steering proves its worth. No switching, no backing . . . straight in, swing the seat, and straight out. The "Shuttle" has the quickest "turn round" of any Dumper.

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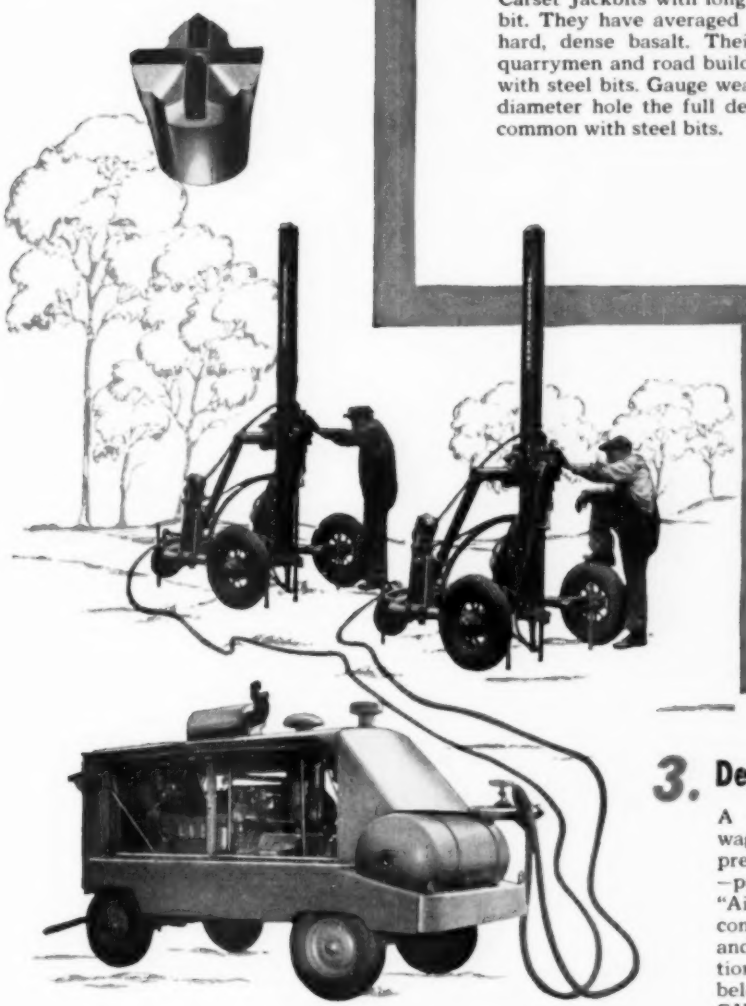

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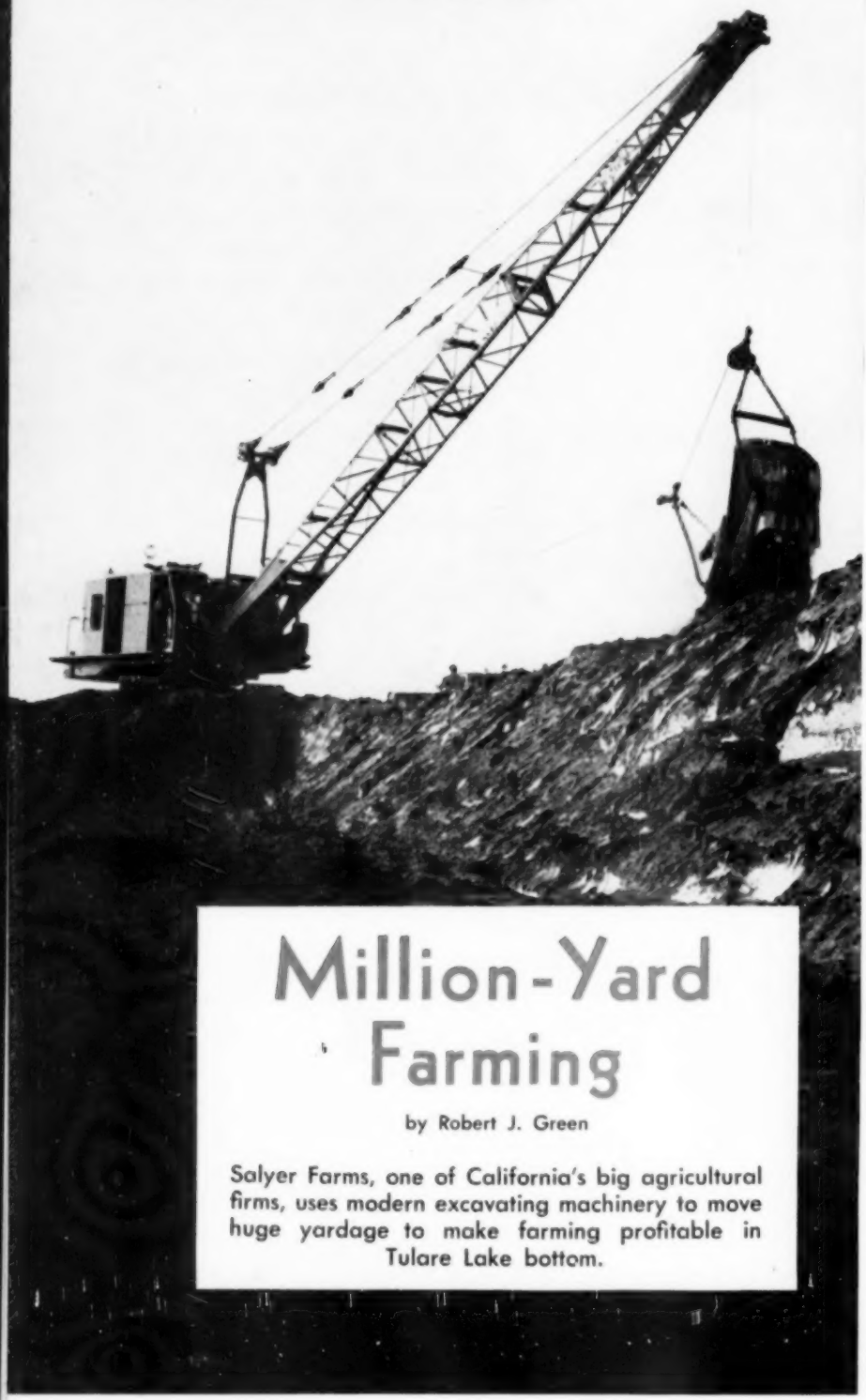


Million-Yard Farming

by Robert J. Green

Salyer Farms, one of California's big agricultural firms, uses modern excavating machinery to move huge yardage to make farming profitable in Tulare Lake bottom.

SPREAD across two Central Valley counties from Corcoran, Calif., is Salyer Farms: 30,000 incredible acres of modern agriculture not exactly in keeping with a man's traditional definition of farming.

Last year alone, Salyer Farms moved a million cubic yards of dirt, let a contract to Morrison-Knudsen Co., Inc., and spent $330,000 for the construction of a single levee 12 miles long to protect one field. Its newest machine, a 1½-yd. Bucyrus-Erie 38-B dragline, is building a 12-mile irrigation canal where excavation amounts to 40,000 cubic yards a mile. The outfit entered a rush order for three new Caterpillar DW-10's to boost its fleet of those units to six . . . for emergency work. It employs 200 people on a permanent payroll. And Salyer Farms has found a way to farm the rich, black bottom of Tulare Lake profitably.

Headed by Clarence Salyer, who started in Central Valley 33 years ago as a muleskinner, Salyer Farms is an excellent example of a modern big western agricultural business. It exemplifies the close relationship between sound agriculture and large-scale dirt moving so necessary to make semi-arid farming a success. Clarence Salyer and his two sons, Everett and Fred, have demonstrated to their neighbors the startling relationship between large-scale dirt moving with construction equipment and sound, profitable farming. Some of their schemes have been laughed at, like the investment of $330,000 in the Tulare levee, but as each of the innovations has proved its soundness, serious-minded neighbors have also changed their thinking.

Water is the Problem

Directly or indirectly, water is the problem which must be met and solved to make farming profitable in this region. Salyer's earthmoving program is tied directly to it.

While Salyer Farms owns land in higher ground also, much of its most

• Water delivery canal, 12 miles long, is dug by Bucyrus-Erie 38-B dragline with Red Arch bucket. Last year, the Salyers moved 1 million yards of farm dirt.

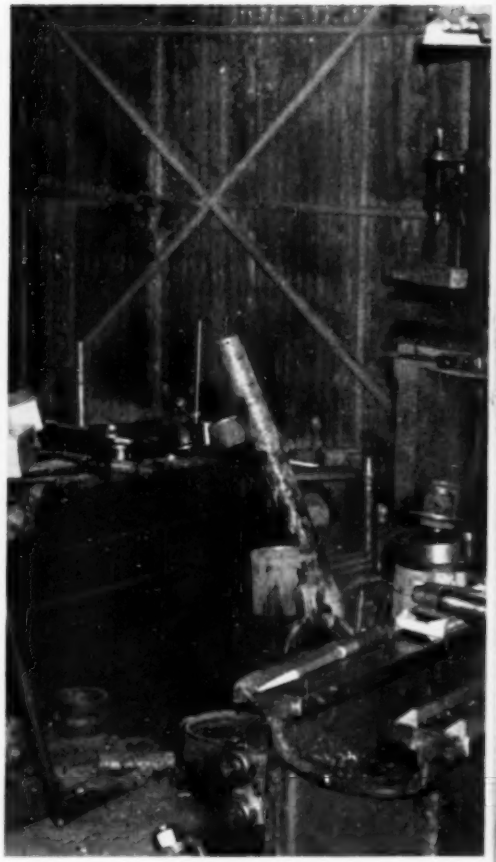
• Caterpillar DW-10, pushed by D8, picks up load of dirt for emergency repair of Tulare River levee. Tires are water-filled to give extra traction.

productive farmland is in the fertile bottom of Tulare Lake. From time immemorial there has been no adequate water-supply control which would permit the sound, safe farming of countless thousands of acres of soil in this area. Probings and welldrill logs show that the black, organic-laden topsoil often extends down 500 feet. It is some of the most productive land in the entire Central Valley, except when two things happen. If Tulare Lake fills and floods, as it has a habit of doing, the entire area often stays submerged for years. During times of drought, the rich fields dry up for lack of the very same water. So laden with alkali is the ground underneath these fields that wells have to be sunk from 1200 to 2000 feet to develop fresh, sweet water in any quantity.

Clarence Salyer bought much of the Tulare Lake bottomland he now owns while it was submerged. And the Salyers have demonstrated with the investment of their own money how the flood-drought cycles can be controlled. In times of flood, the Salyers have shown that strong levees built with heavy-construction dirtmoving equipment can keep a field safe, especially when a pumping program is used to remove any seepwater. By drilling deep wells, the Salyers have shown

• In summer of 1953 this land will bloom with cotton. Now it's being drained by pumps driven by tractors or engines. Bringing in needed water and removing excess are big Salyer problems.

• On west side of big 8-mile Tulare Lake levee, three Peerless pumps remove seepwater from drainage canal and keep six-section field out of danger.



• Out in headquarters shop, Machinist John Van Driel lays out pattern for spare part not in stock in Bakersfield.

what an enormous investment is necessary to produce dependably about 40% of the water they use for irrigation. By digging irrigation and drainage canals, they have shown how to handle the remainder of the water they need.

So far, nobody seems to have found any middle course. It seems to take plenty of heavy equipment, a high money investment, and enough land area to keep the huge equipment fleet busy to make farming successful. A reduction in any of these items is a potential source of failure. Big as Salyer Farms is, the Salyers diversify the type of land and the type of crop to spread their risk, because even for them, it would be dangerous to gamble on one thing.

Principal Crops

The principal output at Salyer Farms includes cotton, grain, alfalfa, beef cattle, and sheep. Along with Salyer Farms, Clarence Salyer heads Salyer Land Co. and the Salyer Grain and Milling Co. At its Corcoran elevators the farming company can store 50,000 tons of barley in the silos and another 14,000 tons in the office flathouse. The Salyers own about 30,000 acres outright, and often lease additional land to boost their holdings to 60,000 or 65,000 acres.

At present, Salyer Farms has an

• Caterpillar D8 tractor pulls five seed drills. Picture gives idea of expanse of farm land Salyers saved by building 8-mile levee through Tulare Lake. Lake level was 10 feet higher than this land.

• When levee along Tulare River broke, Tulare River Irrigation District sent SOS for Salyer Farms' equipment. Bulldozers plug break as DW-10's behind bring in new dirt.

earthmoving program under way which will last for several years. Other important dirt jobs have recently been finished. They are already paying off in successful, safe farming of the Tulare Lake bottomland.

Salyer Farms' principal units of equipment include machines especially well suited to levee building, canal construction, and canal maintenance. Six Caterpillar DW-10's with Caterpillar No. 10 scrapers make up one earthmoving fleet capable either of levee construction or canal excavation. Each scraper has been built up with sideboards to 11½-yd. struck capacity. Each DW-10 prime mover has been equipped with push block equipment so the units can help load each other, if necessary. Such mechanical alterations as these are usually done in the headquarters shop at Corcoran.

Salyer Farms has had steady work for two draglines for about 10 years. In recent years two Bucyrus-Erie 22-B's were used. In October, the Salyers replaced one of their ¾-yd. machines with a new 1½-yard Bucyrus-Erie 38-B, retaining the other for miscellaneous digging and crane work. There are two buckets for the 38-B: A conventional 1½-yd. Red Arch bucket for long-range work with an 85-90-ft. boom, and an outsize 2-yd. Red Arch bucket for short-boom (60-65-ft.) work.

In addition to these main units, Salyer Farms owns 10 Caterpillar D7 and D8 tractors, four pull-type graders, a D4 for miscellaneous check work, and a conventional truck-mounted mobile grease and fuel service rig, capable of maintaining construction equipment in the field. The mechanization of farming on the big spread is just as thorough. The latest models of drills, plows and so on are seen. Often several drills are hooked together behind a D8 for high-speed seeding in fields having several sections of area.

One of the most interesting earthmoving jobs done by the Salyers was the construction of an 8-mile, million-yard levee along the west side of Tulare Lake in 1951. Preparations were already underway to dewater low land owned by the farm when a series of storms flooded the local rivers and began to raise the level of Tulare Lake. In mud up to their knees, Clarence Salyer and his sons surveyed the situation and decided on a bold gamble: They would construct a levee at high speed, and finish it in time to raise a crop on low land west of the dike.

"We put our equipment to work immediately, including the three DW-10's we then owned," explained Fred Salyer. "We put in a rush order for

• Bucyrus-Erie 22-B drives foundation for pump installation along shores of Tulare Lake. Later, piles will be capped and three Peerless pumps installed.

three more, and let a dirtmoving contract to Morrison-Knudsen Co., who moved in and did an excellent job for us. Their contract was on a rental basis, but their machines worked just as hard as ours did, and put out just as much material. M-K's Los Angeles district manager, Jim Wells, even came up several times and gave orders that our land west of the dike location wasn't to get any wetter."

The base of the big levee was started by end-dumping with the help of dozers a wide, thick course of heavy soil out through the rising lake. In short order a low dike had been built across the 8-mile danger zone. The weather continued to be terrible, and digging and hauling conditions were bad, but the dirt continued to pour into the levee just a hairline faster than Tulare Lake could rise. Meanwhile, three powerful General Electric driven Peerless pumps were set in on the west side of the levee, and began pumping about 76 cubic feet of water per second off the farmland. Between Feb. 27 and June 15 that year the million-yard levee was successfully begun and finished, the huge acreage to the west was saved for a crop, and Tulare Lake failed to cover some of the richest land in the region. In spite of the adverse digging and hauling conditions, and despite the length of haul, the levee has already proved to be an excellent investment. The wet soil and tire compaction resulted in a dike sufficiently strong that no signs of failure have developed.

Last year the DW-10's were used again to excellent advantage irrigating this 6-section acreage. The field was so large that enormous amounts of water were required; so much so that the uncontrolled admission of that much water was practically certain to wash away or otherwise damage the land and its cotton crop.

A survey was run, and a series of earthen dikes about 1000 feet apart was built. Small gaps were left in the center of these barrier structures so the water would slow down and pass on to the next acreage under control. The earthen barriers were engineered almost as carefully as the slowdown steps in the stilling basin of a big dam. At the gaps near the end of the dikes, a sheepsfoot roller was used to tighten the structures. When the whole tract was equipped for rapid irrigation in this manner, a dragline cut a hole in the levee along the upstream side of the land, and about 500 cfs of water began to pour in from Tulare Lake. The work had been so well laid out that the irrigation was a huge success, and visitors from all around the area flocked in to watch the spectacular operation.

The DW-10's are also helping the region in a more general way. A recent levee break along the Tulare River brought a rush call from a local irrigation district, and Salyer's machines quickly went to work on a rental basis pouring dirt into the break. It was successfully stopped at reasonable cost to the irrigation district, and what might have been a serious disaster was averted. The machines have also done work on some of the local roads.

Two Draglines Busy

Equally as busy as the wagon fleet are the two draglines. The new Bucyrus-Erie 38-B, for example, has so much work ahead that it is currently working under lights at night to put in a double shift on a new water-delivery canal for lands never irrigated before. The canal is about 15 feet deep, has a 15-ft. bottom, 1½:1 side slopes, and its excavation is averaging about 40,000 yards to the mile. The excavated material consists of topsoil and a relatively tight subsoil, none of which will require drilling or powder. The 38-B is stacking this material in balanced piles on both sides of the new canal, and has consistently averaged 1700 cubic yards per shift.

As soon as the 38-B finishes the 12-

mile canal now under construction, there are other canals contemplated, as well as drainage ditches.

Salyer's 22-B crawler dragline is truly a jack of all trades. With a shop-made drop hammer, it often acts as a pile driver crane, driving piles and timbers to support large pump installations. It handles heavy lifts of all types in connection with irrigation structures, pipelines, and machinery repairs. It maintains canals and sets pipe. In fact, the installation of irrigation pipe underground is assuming more and more importance, because the delivery of irrigation water underground prevents the leaching of alkali to the surface, and reduces the loss of water through evaporation.

All irrigation water in Central Valley surface canals is to some extent muddy. Silt carried in suspension deposits itself on canal bottoms and sides. As this fill forms, weeds and tulles begin to grow. There is no better instrument anywhere than the dragline for cleaning out this annual water-reducing deposit from the canals, according to Fred Salyer, and much of the 22-B's work consists of such activity. Most of the time the excavated material is simply dumped along the canals to bolster the banks.

In addition to this work underwater, Salyer Farms uses Ford tractor mounted mowers, whose blades will reach down on a 45-degree angle, to cut Johnson grass above waterlines. Perhaps the most effective trick of all in canal maintenance is one they use to clean weeds and moss several times a year. They use a 300-ft. battleship anchor chain hooked by the ends to the drawbar pins of two tractors, one working each canal bank. The chain is a heavy, weed-destroying instrument when it is dragged down a canal in this way. On some of the bigger Salyer canals, it takes two D8's to pull the chain. But it permits the removal of moss and weeds while the canals are delivering water: Something no chemical has yet done successfully or economically for the Salyers. Weed burners, too, have been costly.

There seems to be a basic relationship between the heavy-duty construction machinery and the heavy surface farming equipment necessary to farm Tulare Lake bottomland.

The Salyers have not found it profitable to buy single-purpose equipment such as drilling units for water wells. All water well drilling is done by Corcoran drilling outfits as the necessity for new wells arises.

Shop Maintains Equipment

Major repairs, when necessary, are made in Corcoran at the headquarters shop, where even a Caterpillar service shop with trained Diesel mechanics is maintained. The main shop is a large tin building on a structural steel frame, 80 x 400 feet in size. Spacious adjacent yards and fuel pumps nearby are part of the repair setup.

• Receptionist Christine Price reaches 17 mobile 2-way Motorola sets in two counties on vast farm.

For a farm shop, the Salyer installation is unusually complete. Inside the shop can be seen Lincoln arc welding equipment, a Leader automatic welder, a drill press, power hacksaw, a Rogers power saw, a South Bend, Lodge and Shipley, and both Kelly and Rockford lathes; a Diamond shaper, oxy-acetylene equipment, and countless kits of heavy-duty tools. There is an overhead crane and auxiliary equipment to make heavy lifts.

Manufacturer's service recommendations are generally followed, and the equipment is all so well standardized that the inventory of spare parts can be kept to a minimum. Distributors nearby at Porterville and Bakersfield help to solve the spare parts problem. Equipment is nicely kept up, and the various machines always look good, even under the most rigorous service.

To even a casual observer, Salyer Farms gives the impression of a progressive, efficient outfit. From Clarence Salyer himself right on down through Superintendent Denton Jones and other permanent key people, there is enthusiasm and drive.

• Left: At Corcoran yard, International mounted cherry picker makes lift as mechanics overhaul one of numerous engine-driven pumps for on-the-spot irrigation or dewatering. Right: Clarence Salyer (L) and his son, Fred, inspect wear on teeth of subsoiler mounted behind Caterpillar tractor.

• Coming across the embankment of one of the small dams are: (left to right) Miguel Angel Marran, resident engineer, Ray C. Romano, general manager for contractor—La Victoria y Asociados, S. A., and Ricardo Mucharraz, general foreman.

Concrete-Lined Canal Waters Mexico's Yaqui Valley

by Mary Saint Albans

Mexican contractors build canal to irrigate the famous Yaqui Valley in Sonora. One contract totals five million cubic yards mostly in rock.

ONE July morning in 1951, a strange procession cut a wide swath through spined cacti and sword-edged desert plants of southern Sonora's wastelands. In humid 116° heat, five Caterpillar D8 tractors followed close in the wake of a khaki-clad North American who occasionally halted to climb on one of the yellow machines, gaze intently into the distance, then jump down to crash through underbrush again.

The perspiring hiker was Ray C. Romano, general manager of La Victoria y Asociados, S. A. which had recently signed a big canal contract with the Reclamation Bureau of Mexico. On the previous day he had piloted his private plane over the terrain to take bearings from foothills. The tractors, unloaded at the Esperanza station that very morning, immediately headed for work on the 77.3-mile long main canal to service Sonora's big new Alvaro Obregon dam.

In October of 1952, this dam, usually called Oviachic, was inaugurated. It is located near C. Obregon, booming Sonora town. The main canal, which will feed on the reservoir, and tunnels, drains, structures, and roads, represent a cost of 180 million pesos of which 150 million pesos or $17.5 million has been loaned by the Import-Export bank.

Rock Problems

A difficult phase of this extensive irrigation system, pushing the main canal through 19 miles of rugged foothills, is the job of La Victoria y Asociados. Total excavation adds up to over five million cubic yards of rock. Murderous heat in summer and freezes in winter have altered rock terrain. Badly broken and fractured it changes frequently from basalt to conglomerate and vice versa. So uneven, too, is the surface that cross-section cuts run from 5½ to 35 yards with an average of 10 yards. According to Jorge M. Negrete, head engineer of the company, this is the toughest excavation La Victoria has yet tackled.

Acknowledged in construction cir-

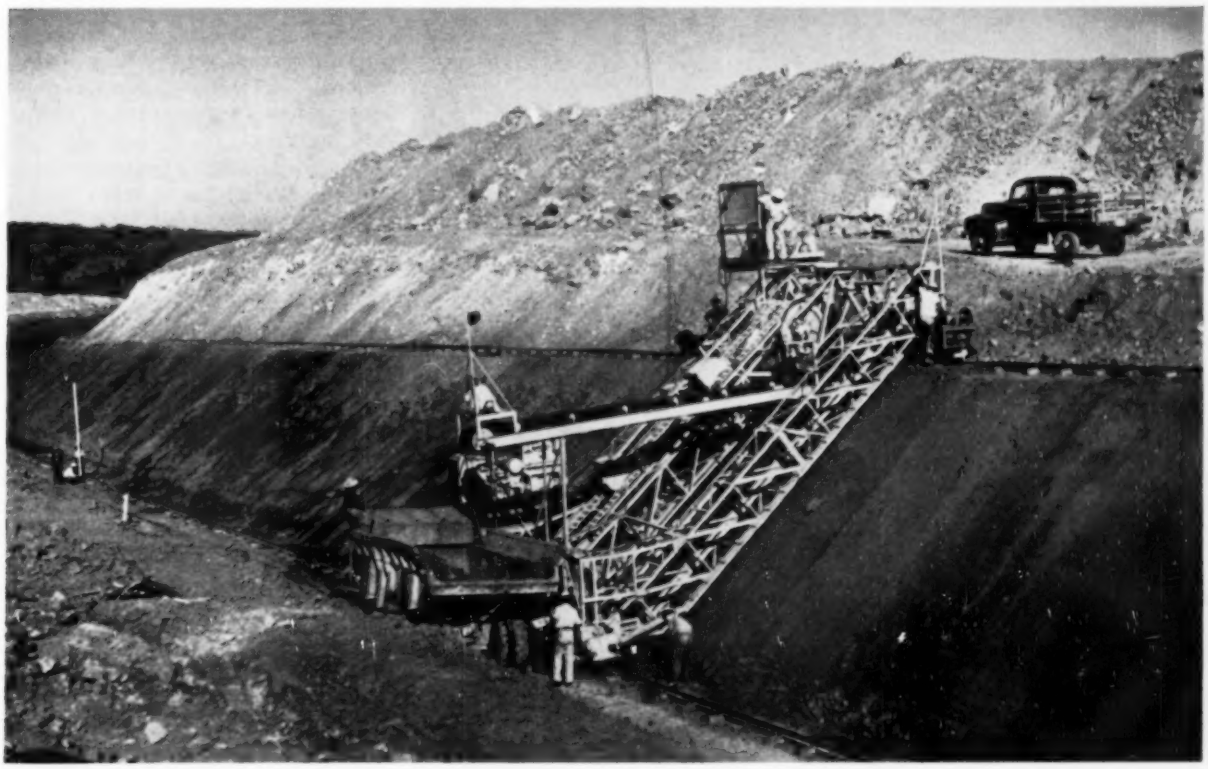
• Here is a section of the 77-mile canal with clay lining in place. Contractors will apply concrete layer to canal for extra stability.

• Two Caterpillar D8's, one dozer-equipped and the other scraper-equipped, clear area to establish borrow pit. Clay will be stripped here for placement in canal.

cles as one of Mexico's premier canal builders, the company recently completed a big section of canal for the Falcon Dam, including a stretch through rock, as well as structures. This, Mexico's largest canal in size, will service the new border dam built jointly by the southern republic and the United States. It was finished six months ahead of contract stipulations.

Despite major unforeseen difficulties, this exemplary record is being bettered in Sonora. To complete the canal per contract, La Victoria must excavate 210,000 cubic yards monthly. So far the average is 255,000 cubic yards. Officials in the company as well as crew members will tell you that these results are due in a large part to the dynamic energy and construction know-how of the general manager, Romano. Ploughing through wicked desert vegetation in searing heat to

• Light jumbo trims clay lining before concrete is placed. Machine is powered by International engine at top and Le Roi at the bottom. It loads to Euclid which travels along with it in the ditch bottom.



• Above: Two Northwest draglines are in fleet assigned to excavation. Here they load borrow to Euclid bottom-dumps. Below: Also in a borrow pit a sixteen-year-old Bucyrus-Erie 37-B dragline spills dirt into Euclid end dump.

get tractors post-haste on the job is only one of many illustrations they cite to prove their statements.

The same day the Cats hit the job site they started clean-up operations. The next day drillers were at work; a week later the draglines moved in.

The excavation section of the canal is six meters wide at the base, with slopes 1¼:1. Extremely rugged terrain with masses of altered rock spelled trouble from the first day. On the 50% to 85% slopes it was difficult to insert trapezoids. Precipitous surface made the moving of machinery difficult. Six men were needed to move a wagon drill.

Drilling Jumbo

Most of Romano's time during the first two months was spent solving problems. To move the drills he devised a jumbo which proved a success. Four Gardner-Denver 99 drills were mounted in a straight line in front of a Caterpillar D8 tractor. On top went the air reservoir. Two Gardner-Denver 500 cfm compressors furnished air. Quickly and easily the tractor moves four drills, five yards or a hundred as the job demands.

Due to constant changes from basalt to conglomerate and vice versa drilling for 20-ft. lifts is the rule. Soft pockets frequently make it necessary to pull a drill and re-insert hoping for better luck. Reolite, an exceedingly hard rock, unexpectedly encountered does not help matters. Even so drilling operations prepare about 57,000 yards monthly.

A special blasting technique was evolved. During the first few weeks, breakage was unsatisfactory. Spring loads were increased. By springing the center line of holes with heavier load and by loading side holes using millisecond delay caps, 3½-yd. buckets could easily handle fragmentation obtained.

Constant vigilance is required in order that the amount of powder used per cubic yard does not exceed its proportion of the total amount estimated for the job. After rigorous experimentation, Atlas Flow Dyne No. 7 bag powder with 60% extra and "Lockmaster No. 2" millisecond delay caps were found to be the most satisfactory. Five carloads of dynamite a month is consumed.

Because Sonora is a border state and far from Mexico City (the capital where big machinery houses operate),

faulted terrain in the canal proved the prime enemy. Plans called for removing the bedrock to a depth of six meters; instead it was necessary to go down ten meters and to grout fifteen feet deeper. Cement was shot with a Gardner-Denver grout pump.

Seepage pumping started at bedrock with two Jaeger pumps—a four and a ten incher — used alternately. Two cement lined pumpholes have already been grouted off but pumping will continue through the other two until rock fill commences.

In October Euclid end-dump trucks and side-dump trucks filled by a Northwest 380 digging in a small nearby clay pit, were dumping on the dam. A D8 tractor leveled and a second D8 hauled a compacting tamper. A Lorain finished off a side wall.

Meanwhile work went on in several sections of the canal. Driving along the south border, we passed a Northwest digging rock. Nearby a Gardner-

all supplies are brought directly from the United States. Due to transportation difficulties, La Victoria put on its own truck service covering the 700 mile round trip (350 miles one way) twice weekly. And to be safe, the warehouse is stocked with three times as many extra parts as otherwise would be the case.

After five kilometers were dug north from Kilometer 35.5, the starting point, government engineers suspended work from Kilometer 31.1 to Kilometer 26 in order to revise line and location. Men and machinery moved to the high intake of the dam and began to dig south.

At Kilometer 3, the small Potrero dam, comprising 223,000 cut yards of rock and earth fill, was built. Both this and the larger Aguacaliente dam, farther south would ordinarily have been siphons. But foothills made it difficult to preserve the required grade and the dams went in instead.

When the writer visited Sonora in 1952, the Aguacaliente dam was well along. Specifications and problems too, are similar in proportion to the smaller Potrero. Aguacaliente has 1.7 million cubic yards of earth and rock fill. The cut-off wall is 26 feet deep. Then comes 920,000 cubic yards of clay, 250,000 cubic yards of gravel, the transition layer, and 490,000 cubic yards of rock. It is 27 yards high, 77 yards wide.

According to Engineer Negrete,

• Top: Two 500 cfm Gardner-Denver compressors furnish air to the tank-topped rig seen beyond the rise and in the picture below. The drill jumbo is a Caterpillar D8 crawler tractor with four Gardner-Denver wagon drills mounted on front. Blasting and drilling were heavy in the rock sections.

• Above: Euclid bottom-dump transports clay to canal where it will be spread in even layer.

• Below: Helping to excavate section of canal is this Lima dragline.

Denver 50 powered two wagon drills and a small Cat 311 light plant waited for night to get busy. Farther south Euclids dumped earth on the finished rock surface and Cats leveled and compacted.

Fifty acres of borrow pit is located about ten kilometers from Esperanza. Here a Bucyrus-Erie 37-B and a Northwest work the pit. The earth is used to line the channel.

Line Canal Throughout

This high main canal of the Oviachic dam is unique in Mexico, in that it is the first to be concrete lined throughout. The object is the prevention of water losses due to infiltrations.

La Victoria covers slopes and base with six inches of red earth which serves as a base for four inches of concrete. On the sides the earth is flattened by a roller attached to a dragline. At the bottom a Cat D8 pulls smooth rollers with the same result.

Cutting the clay presented a problem. Because of transportation difficulties it was not feasible to bring in the 225-ton cutting Jumbo used in the United States. Besides moves on rugged uneven land would have meant constant dismantling and reassembling. A small specially built Jumbo was secured. Equipped with a Le Roi engine at the bottom and International above, it performs adequately.

Beyond the Jumbo, just getting into

action, were two draglines digging rock. Equipped with 4-yd. buckets and Cummins engines, they are the backbone of the rock excavation.

New machinery is bought when needed but long service life is the rule. There are several new 500 cfm Gardner-Denver compressors as well as two old ones, and three 345 compressors. Ten wagon drills use Timken bits. Four Jaeger mixers mounted on Ford trucks brought to Tehuantepec Isthmus six years ago, are still operating like new. Jaeger pumps and Continentals have seen duty a score of years. A Bucyrus-Erie operating in the borrow pit is sixteen years old and going strong as are the Northwests.

Get Most from Machines

Romano is mighty proud of his machinery record. Equipment is expensive in Mexico with the peso 8.60 to $1, and many times, difficult to obtain when needed. As the old machinery has long ago been amortized, he figures that every day it works means money saved. Moreover the old equipment performs almost like new. That, of course, is the big story. The 16-year-old Bucyrus-Erie dragline is on two 10-hour shifts every 24 hours. Its work percentage averages 89%.

Six years ago the four Northwests were equipped with Murphy engines. Each motor was on the job, 12,000 hours before being overhauled. Caterpillar tractors average 8000 hours before an overhauling. Although performing perfectly, the two Cummins engines in Lima draglines were finally overhauled at 8600 hours, merely as a preventive measure.

Two reasons are given for lack of machinery trouble. First, to insure that the machine operates at its highest possible level, every operator is made responsible for his equipment. Should it break down not only must he help repair it, but worse luck, he is immediately put on half salary. This rule keeps him forever on the alert not only to notice any indication of trouble but to see that it is remedied before his own income is imperiled.

Second comes lubrication. That is the secret of keeping old machinery new—It is impossible to overstress its importance, says Romano. Constantly tractors and shovels are lubricated. Oil is changed every 110 hours—with no exception. Air filters are cleaned every 24 hours.

Lubrication experts, paid 70 pesos a day, head the grease crews. These men must see that every bit of equipment is checked daily. As a double check a large blackboard hangs in the master mechanic's office with a list of all machines and the hour and date

• Above: Production record of various draglines working out of one of the field offices is posted on this outdoor chart. Below: Here a Northwest dragline casts clay lining to canal banks and bottom. Clay will be compacted and trimmed.

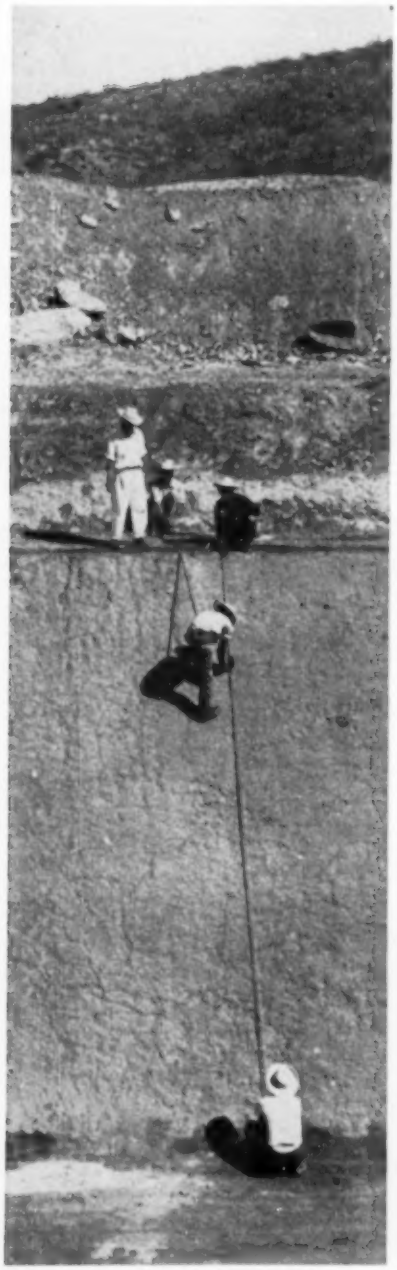
when filter and oil checks are made. They are posted daily.

Romano gives unqualified praise to his men for the production records achieved. His nucleus crew, made up of 130 men, have an average of six and a half years each with the company. It includes shovel and tractor operators, mechanics, foremen, engineers, office men, a cook, and other helpers. Only watchmen, drillers, and day laborers are hired on the ground.

Moreover, Romano works right along with the men. Everything they can do he can do and frequently better. When four heavy Jaeger truck mixers arrived in Tehuantepec they were new to the crew. He drove one 10 hours a day in gruelling heat for two days before entrusting it to a regular driver. Thus he was able to advise as to operation methods. In Sonora he spends 10 hours a day on the job —in hot summer or windy, dusty winter. His lunch is brought out along with the crew's.

Almost as important as the general manager and the head engineer to the company's success is Romano's younger brother, Carlos, who is general superintendent. During the former's frequent trips to Mexico and the United States, Carlos Romano carries the load.

The company is associated with A. S. Vinnel Co. of Alhambra, Calif., which



• Crew inspects clay lining before machines move in to place concrete lining which will be four inches thick.

• A Bucyrus-Erie 38-B crane assembles concrete-placing jumbo. Construcciones Hidraulicos, S. A., who have the assignment for concrete work and much of the excavation, own this equipment.

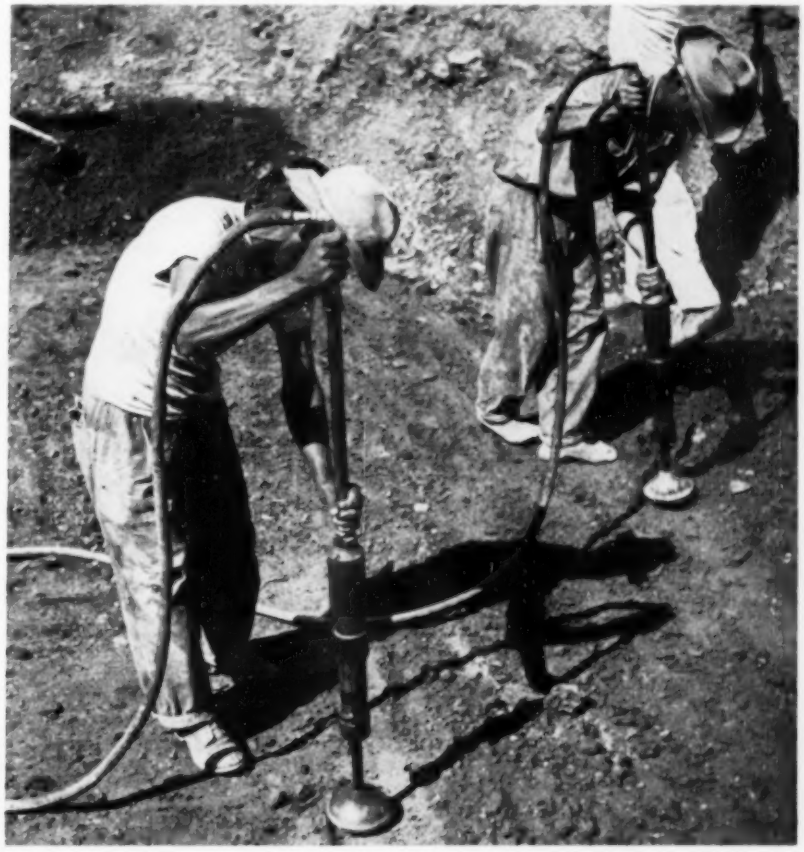
has done its share of U. S. Government contracting in the Far East. Ray Romano is a vice-president of this organization.

Ing. Pascual Ortiz Rubio, former President of the Republic of Mexico and a distinguished engineer, is the president of La Victoria. According to Mexican law, 51% of any organization must be owned by Mexicans. This capital is controlled by Ing. Ortiz Rubio whose personal representative, serving eight hours a day in the Mexico City office, is Sr. Agustin Sanchez.

Head engineer on all projects is Ing. Jorge M. Begrete, who spent 17 years with the Secretaria de Recursos Hidraulicos (Secretary of Irrigation) before joining La Victoria. During these years he helped engineer the Don Martin, the El Mante, and the Solis irrigation projects.

Resident Engineer in Sonora is Ing. Miguel Angel Marron who has been with the company for seven years. Cost accountant is Sr. Flores Valle.

Another big Mexican outfit on the canal job is Construcciones Hidraulicos, S. A. of Esperanza. Their machines bearing the inverted triangle insignia CHSA may be seen digging most of the remaining canal excavation. This month's cover picture shows five of their draglines cutting canal. CHSA is also handling concrete lining of the canal.



• Top right: Air-actuated tampers help give compaction to section of Aguacaliente Dam, one of two small dams which took the place of siphons.

• Bottom right: A lubrication control blackboard gives quick picture to general manager of the care his equipment is getting. Board was erased for picture.

"Big Red"

Contractor completes job 45 days ahead of estimate as TD-24 fleet moves a million yards

Ryan Construction Company, Evansville, Indiana, took on a big job when they contracted to move a million cubic yards of dirt and place 35,000 tons of riprap in site preparation for a new steam generator plant on the Ohio River.

From the first day on the contract, Ryan's five TD-24's made the dirt fly. Their assignment: to cut down two hills and dump the excavated material in old creek bed to make a new power plant site.

They averaged 4 minutes and 40 seconds on the 2,000 foot round trip between cut and fill. Self-loading heaped

SWIFT SELF-LOADING A pair of hustling TD-24's charge ahead, self-loading 18 yard scrapers as they go. Five of these fast Internationals helped keep the job ahead of schedule.

TD 24 Rolls for Ryan

scrapers, the Big Red fleet moved tremendous yardages every day—kept doing it even in rain and mud, the Ryan people report.

TD-24's are the fastest and most powerful crawlers on the market. That's why "Big Red" performance is paying off not only for Ryan but for contractors across the country who need big crawler power to get tough jobs done on time.

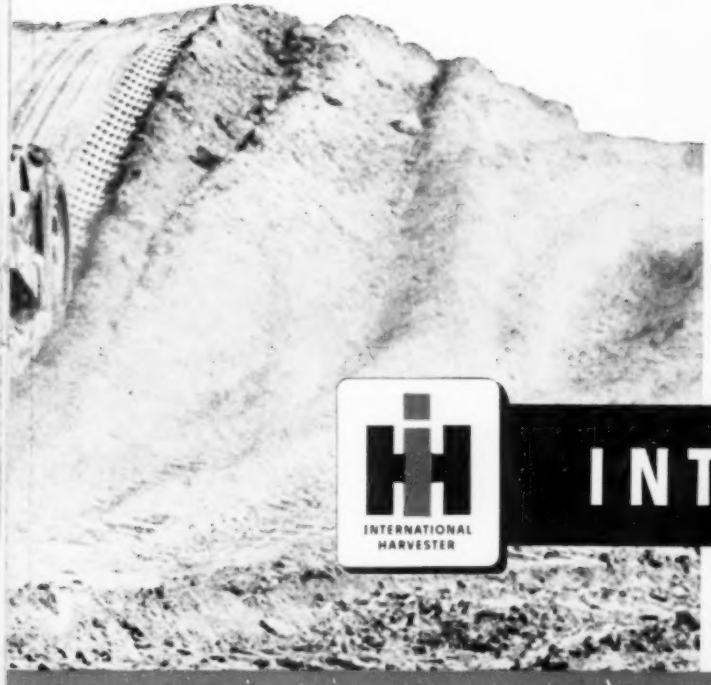
And you can't beat the service provided by your nearby International Industrial Distributor. His trained servicemen, complete stocks of parts and up-to-date shop facilities are available to you anywhere, anytime to keep your equipment in production.

He and the famous line of IH crawlers he sells are willing and able to help you put your contract on a paying basis.

INTERNATIONAL HARVESTER COMPANY, CHICAGO 1, ILL.

POWER STEERING WITH FULL LOADS mean faster cycles, higher daily production. Because "Big Red" steers with full power on both tracks, it can maneuver with the same heavy loads that can be pulled on the straightaway.

WATCHING BIG RED ROLL Ryan Construction men keep close tabs on the performance of their five TD-24's. Cycles are clocked for half an hour every morning and afternoon. Left to right: Guy Tilley, Job Superintendent, Tom Vickers, Job Foreman, and Virgil Scales, Superintendent.



INTERNATIONAL HARVESTER

INTERNATIONAL

POWER THAT PAYS

The Dwyers Thrive on Variety

The Edward T. Dwyer Corp. takes "everything in stride" when it comes to excavating. It's a policy that seems to pay off but you have to keep humping and have your machines ready to go all the time.

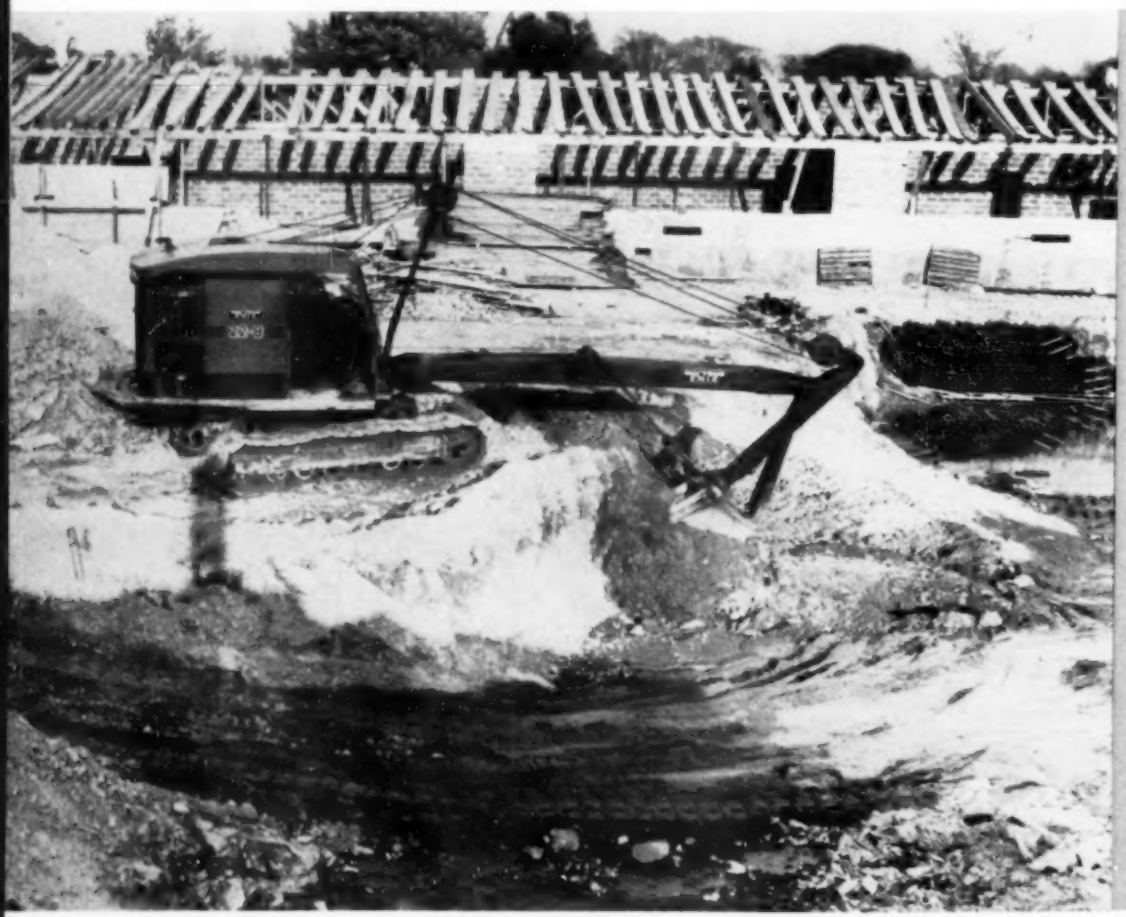
ONE of the busiest of New England dirt-moving contractors is the Edw. T. Dwyer Corp. of East Braintree, Mass. Because it lies next door to Boston, East Braintree may be called a highly competitive neighborhood for the excavating contractor. Yet last year with a moderate-sized fleet of equipment, the Dwyer firm moved nearly 1.5 million yards of dirt.

To achieve that impressive output, you have to keep humping all the time. You have to take on the small jobs as well as the big ones. You have to snag new jobs continuously; you have to turn out the quality of work that keeps customers coming back. And you have to keep your equipment operative 99 and 44/100% of the time—to paraphrase the soap ads.

The Dwyers of East Braintree have all these requirements working on their side. Take the matter of equipment upkeep. Standing in their ample shop when *Excavating Engineer* visited the Edw. T. Dwyer Corp. was a 1931 Mack rear-dump which illustrates the firm's pride in its tools.

There was only one reason the ancient truck stood in the garage instead of being out turning in a full day's work as was its custom for the past 21 years. A photographer sent by the manufacturer would be there in the afternoon to take the old truck's picture.

The big chain-drive hauler looked like it had just been driven off the showroom floor. Edward F. Dwyer, son of the company founder and president, and a mechanic had elongated the frame with channel iron. On the new frame they had hung a long hood, in contrast to the old stub nose, and long fenders. They installed a new Cummins Diesel power plant and a new transmission, the first in 21 years of operation. When they were satisfied that the old truck was mechanically perfect, they added the final touch. They ordered the original paint job duplicated, even down to the fancy



• At Rockland elementary school, Bucyrus-Erie 22-B ¾-yd. dragshovel digs out septic tank filter bed which will serve new building. The contract which Edw. T. Dwyer Corp. handled came to 18,000 yards, 2,600 in rock.

striping at the fender edges. Perhaps it would be proper to call the rejuvenated truck a Dwyer model.

Add to Pool

Most Dwyer equipment looks to be in tip-top shape inside and out. While the company cares for its machines so that they deliver more than normal life expectancy, it also keeps building its equipment pool with regular purchases of new machines. In the garage a gleaming 1½-yd. Hough Payloader was a recent acquisition.

A well-balanced equipment pool is available to Dwyer crews. The company owns eight excavators: A Bucyrus-Erie 15-B, a Bucyrus-Erie 20-B, a Bucyrus-Erie 19-B, three Bucyrus-Erie 22-B's, a Bucyrus-Erie 38-B, and a Byers mounted on rubber. Five crawler tractors belong to the firm: Four Internationals—two TD-9's, a TD-14, and a TD-18, and one Caterpillar D7. The two smallest Internationals are equipped with Bucyrus-Erie Dozer Shovels; the three remaining crawlers are mounted with bulldozer blades.

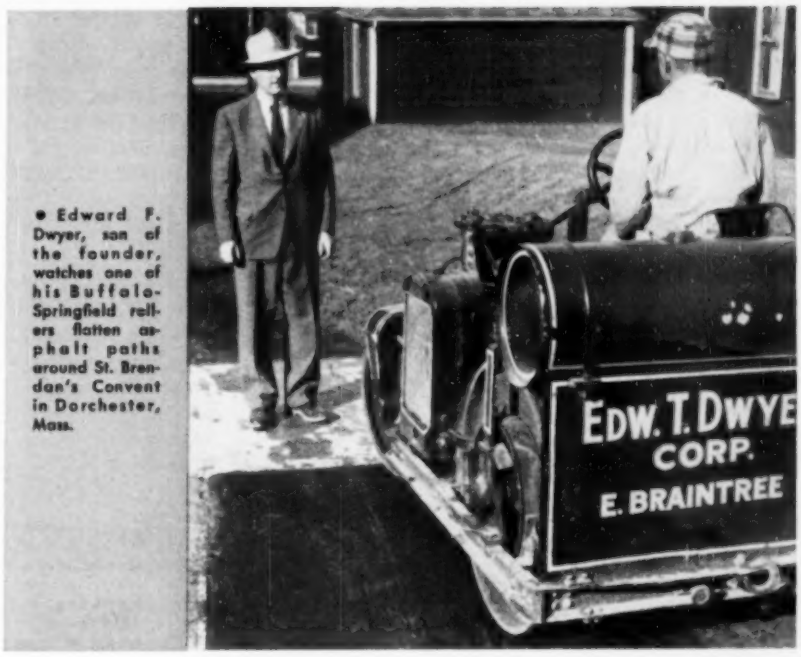
For road building, they have an Adams grader, a Caterpillar grader and two Buffalo-Springfield rollers. Crews transport equipment to job sites on Rogers low-bed trailers drawn by three Mack Diesel tractors.

A fleet of 13 trucks handles haulage: 11 Macks and two Fords. Nine of the Macks carry 10-yd. bodies while two of them are 6-yd. machines. The two Fords are 6-yd. trucks.

Take All Kinds

Using this fund of equipment, the Dwyers keep a host of jobs underway at all times. Almost as striking as the number of jobs going is their variety. Last fall, *Excavating Engineer's* representative toured a number of these sites under the guidance of Edward F., the son-half of the father-son Dwyer team.

Our first stop was on Mount Vernon East Street in East Weymouth. Here one of the ¾-yd. Bucyrus-Erie dragshovels was finishing a 1000-ft. trench



• Edward F. Dwyer, son of the founder, watches one of his Buffalo-Springfield rollers flatten asphalt paths around St. Brendan's Convent in Dorchester, Mass.

up a steep hillside. The 4½-ft. deep by 3-ft. wide ditch would later contain a storm sewer for a private real estate development. To cut the trench, the machine had backed up a 40° hill spoiling to one side for backfill. Characteristic of Dwyer equipment, the International UD14A Diesel-powered excavator appeared to be in showroom condition.

At the nearby Rockland elementary school, another Dwyer 22-B with dragshovel front-end was busy excavating for a septic tank and filter bed. Because it is a fairly large school, a total of 18,000 yards had to be dug

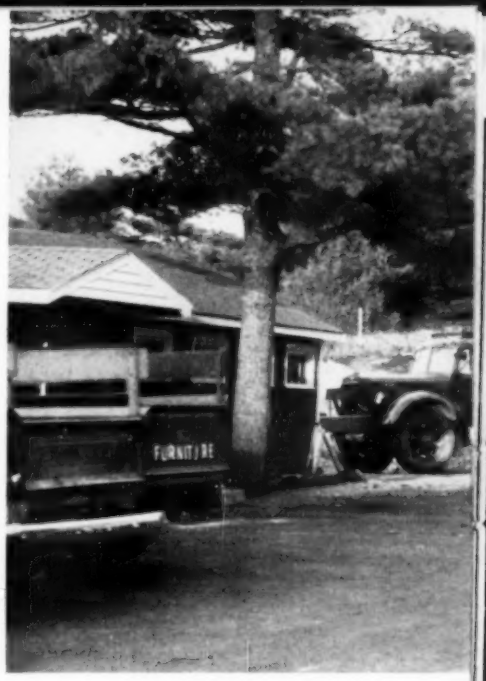
• Right above: This 28-acre tract was a worked-out sand pit which the Dwyers converted to 76 choice residential lots. A ¾-yd. dragshovel is trenching for utilities.

• Right below: Booms of drydock cranes to left show Quincy shipyard location of this Dwyer operation. The International TD-18 crawler with Bucyrus-Erie cable dozer stockpiles leather findings which will go into manufacture of fertilizer.

to give an adequate seepage area. A good chunk of this—2600 yards—was rock excavation. The firm had the contract for all grading and excavation.

Our next step was at the Donald F. Robbins Co., a local distributor for oil and gasoline. The small company was located in a grove of trees and Dwyer had taken on the job of increasing the parking area around the building. The 20-B shovel on this job looked distributor-new although it had long ago been displaced in the manufacturer's line. The machine cut down a bank at one edge of the asphalt parking lot. Mack trucks hauled the dirt 400 feet to the other side of the lot where an International TD-14A crawler with Bucyrus-Erie hydraulic dozer spread the fill. The cut and the fill both served to extend the parking area.

We drove over to the shipyards in Quincy where a Dwyer tractor was doing some work for the American Agricultural Chemical Co. An International TD-18 with Bucyrus-Erie cable bulldozer was bunching leather findings into a tall pile at dockside. Later the findings would be loaded on boats and shipped to Carteret, N. J., where they would become tankage in the manufacture of fertilizer. With the bank of leather scraps to work on, the machine had a good sized job.



• Left: A ¾-yd. dragshovel has just finished backing up 1,000 feet of hill to dig a storm sewer trench in East Weymouth. Below: A ½-yd. Bucyrus-Erie 15-B shovel digs gravel from Braintree bank. Material will feed Dwyer's sand and gravel plant.

At St. Brendan's Convent in Dorchester, Mass., we watched a crew put the finishing touches to a grading and excavating contract in connection with new buildings erected for the institution. The Dwyer firm had completed excavation and was now landscaping. A Buffalo-Springfield 310 tandem roller smoothed out new asphalt walks around the buildings.

On South Street in Holbrook, we watched a Dwyer 22-B, again with dragshovel front-end, dig a trench for utilities installation. The Dwyer firm had converted one of its worked-out sand pits into a residential development. The 28-acre tract had been graded; streets and utilities had been put in; and the area had been subdivided into 76 house lots. It has become standard practice for the Dwyers to improve worked-out pits in this manner.

Have Other Jobs

There were a number of projects underway which we did not have time to visit. In South Braintree, one of the excavators helped out on the construction of a new Procter & Gamble plant. Another crew was over at Attleboro where they were fulfilling a road construction contract. Miscellaneous two and three-hour jobs such as residence grading, basement excavation,

• More parking area for the Donald F. Robbins Co., oil and gasoline distributor, will result from this Dwyer job. The 20-B shovel takes down a bank to stretch the parking zone. Mack trucks transport dirt.

and water main excavation were going on this afternoon as they were almost any afternoon. They go to make up a good percentage of Edw. T. Dwyer Corporation's business. In the winter, these smaller jobs are replaced with contracts for snow plowing and sanding. The Macks and the Adams 610 grader come in handy for this work.

Last stop was South Braintree where the company's sand and gravel plant is located. The plant produces 800 tons per day of sand and gravel for aggregates, road stone, and mortar sand. Most of the gravel is currently excavated by a Bucyrus-Erie 15-B shovel from a bank in nearby Braintree.

Pit run material is dumped through a 6-in. grizzly to a feeder which loads a 24-in. conveyor belt. Next a scalping screen takes out the 1¼-in. stone. The 1¼ to 2½-in. stone is sent on to a Telsmith gyratory crusher while the stone over 2½-in. is routed to two New England Road Machinery jaw crushers.

After the material is run through another scalper, it is carried by an 18-in., 100-ft. conveyor to a triple-deck Telsmith vibratory screen. Output is graded as follows: Brick sand, concrete sand, ⅜-in. stone, ¾-in. stone, and 1¼-in. stone. A Telsmith settling tank cleans the brick sand while concrete sand is washed in a twin-screw New England Road Machinery washer. A 150-ft. belt stacker with discharge 85 feet from the ground builds up storage piles.

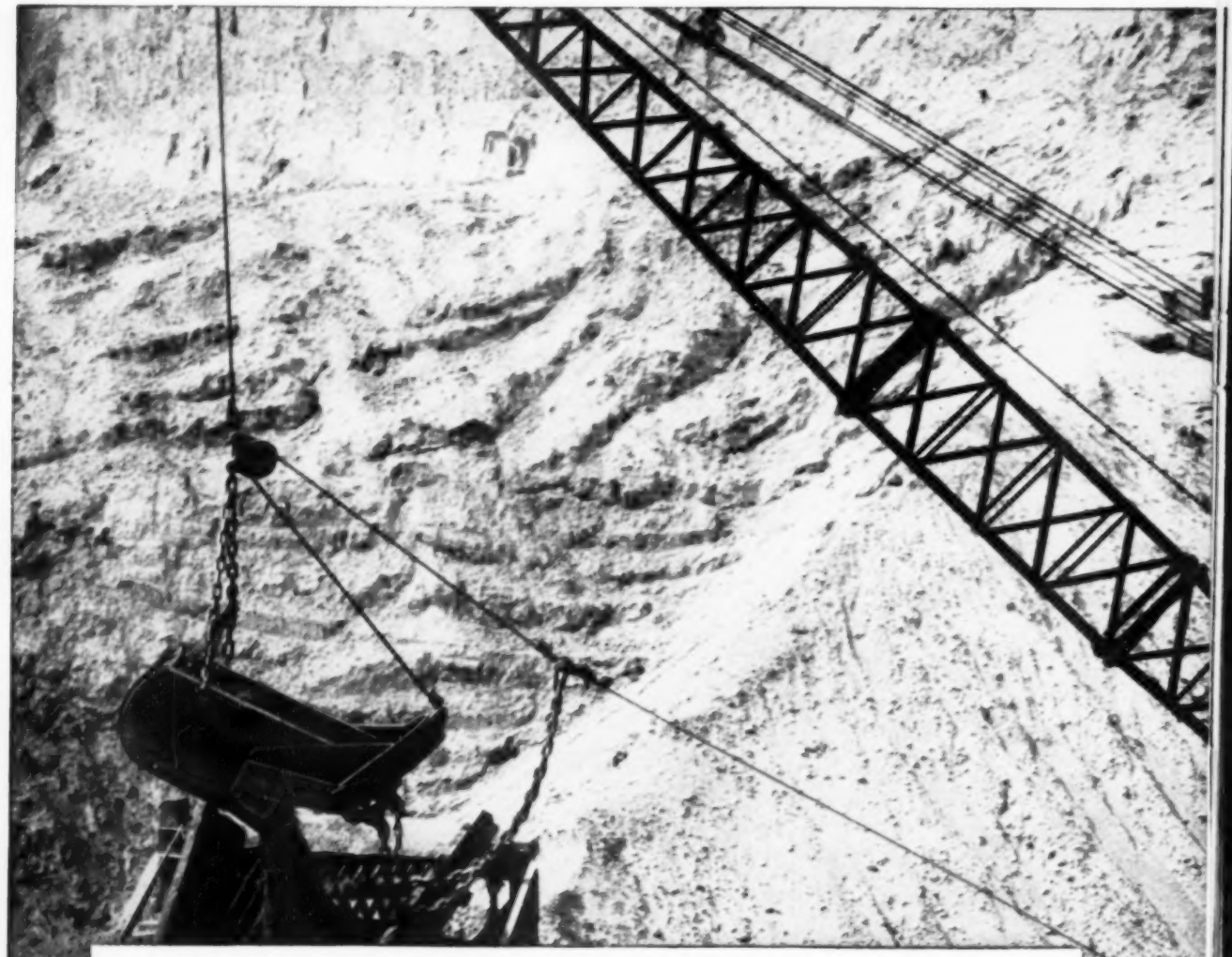
Two Haiss loaders and a Byers 61-W ½-yd. shovel mounted on rubber tires load haul trucks from the sand and gravel plant stockpiles. A Hercules engine powers the Byers.

More to Follow

It had been a busy day for us just keeping up with young Edward F. Dwyer. His statement after making the rounds, "We've been busy as a son of a gun this year," seemed to be pretty much of an understatement.

Edward F. had lost none of his energy and enthusiasm for the dirt-moving business. It was to be expected. His father Edward T., at 72 has headed up the business for 50 years without showing any signs of boredom. And the way Edward F. speaks about his son's collection of earth-moving toys, you can be sure a third-generation Dwyer will be fitting his father's and grandfather's pattern.

• Top: Rubber-mounted Byers 61-W ½-yd. shovel loads sand from stockpile in the Dwyer sand and gravel plant yard. Mack takes material to job site. Haiss loader performs same work when withdrawals are heavier. Below: Bucyrus-Erie hydraulic dozer on International TD-14A crawler levels fill on the Robbins parking lot.



You owe it to yourself to check

KOEHRING WORK CAPACITY"

While mechanical features, operating advantages, speeds and capacities are important to excavator and crane efficiency . . . final proof of profit earning value is in *cost per yard moved or ton lifted.* That's why you owe it to yourself to get all facts on "KOEHRING WORK CAPACITY". For specific figures, see your Koehring distributor.

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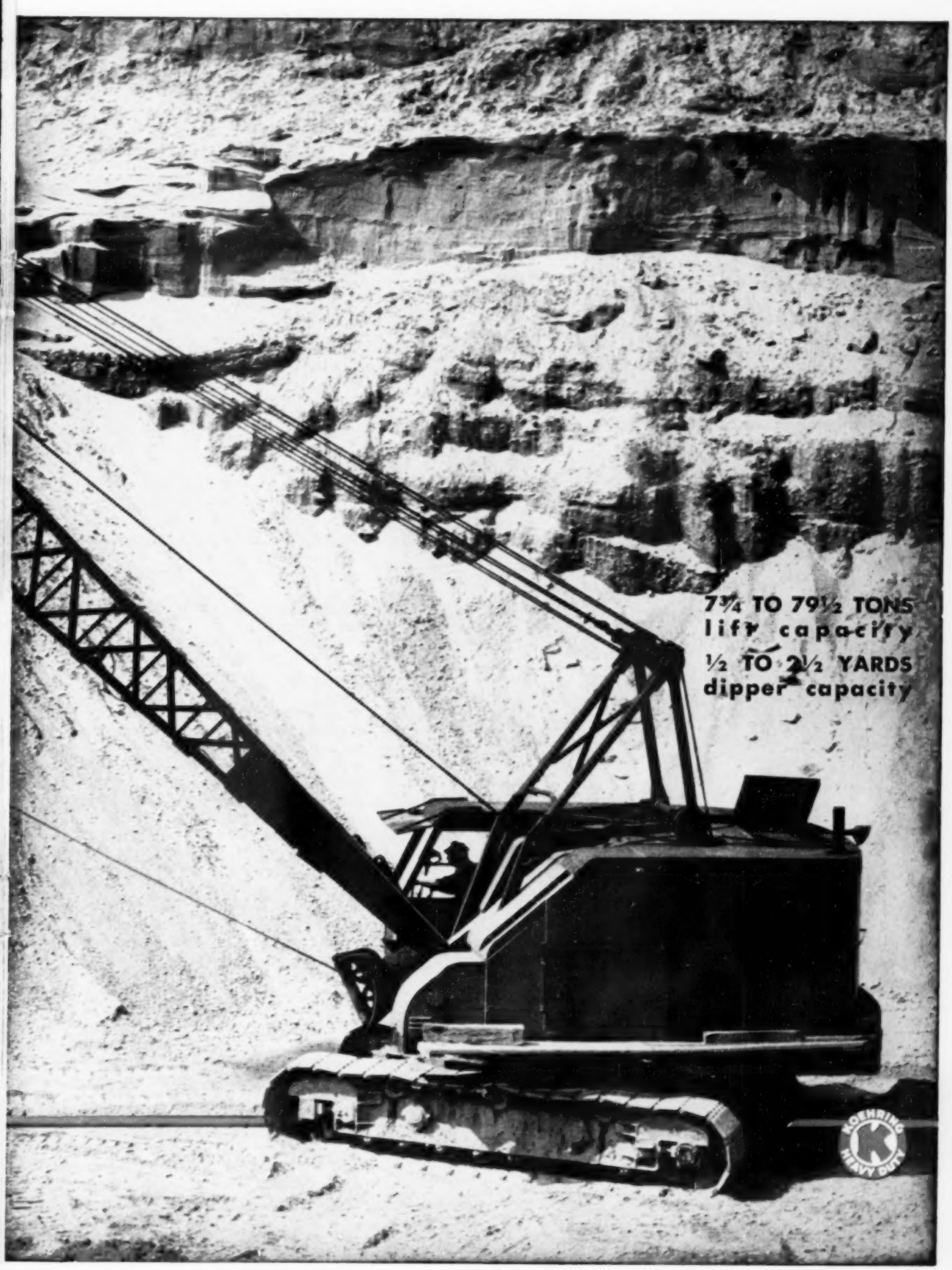
7¾ TO 79½ TONS
lift capacity
½ TO 2½ YARDS
dipper capacity
KOEHRING
HEAVY DUTY

News from the Field

Contractor Issues Book

The Construction Aggregates Corp. of Chicago, hydraulic land fill specialists, has released a new brochure, *Men, Methods and Machinery*, which relates "in case histories what CAC is qualified to do" and "reports on methods and equipment available for the solution of perplexing construction problems."

The brochure, according to J. R. Sensibar, founder and president of the company, was prepared as a service for engineers, architects, public works administration officials, and industrial leaders.

Construction Aggregates Corp. owns and operates equipment valued at $10 million. Included is the only fleet of hydraulically self-loading and self-unloading hopper dredges in the world, motors up to 4000 hp each; 28-in. pumps capable of delivering 40,000 gpm, and pile drivers, cranes, bulldozers, and auxiliary equipment.

The brochure details CAC's work on Chicago's lake front development, the Hyperion Hills project in Los Angeles, ports and harbor work, fill for the New Jersey Turnpike, the Steep Rock Lake (Canada) "face lifting job," and projects for private industry, among other work.

The company, the brochure reveals,

has been "making land to order" since 1914. The patented Sensibar method of sandfilling has been used, for example, to stabilize soils which will support the weight of large structures and elevate land too low for its proposed use.

The company has demonstrated, it is claimed, that hydraulic transportation of sand is the most practical means of filling a remote site, especially where pipelines can be laid across areas over which trucks could not operate.

The job histories reported on in the brochure include:

1. The Field Museum foundation stabilization in Chicago (1916), which proved the superiority of the Sandfill Sensibar Method over then conventional land fill methods. It is recalled that wet sand was spread over this area, after an attempt to fill the area with dry sand caused shifting of the soft subsoil and threw 40-ft. foundation columns, erected on 60-ft. piles, out of line.

2. The creation of 1200 acres of land along Chicago's south shore line for the foundation of the Outer Drive, an automobile highway. The Sensibar method of carrying in lake sand on hydraulically self-loading and self-unloading hopper dredges and pipe-lining it to the fill area allowed the completion of this work within original budget limitations.

3. The "dredging in the sky" project at the Hyperion Hills site in Los Angeles, where CAC washed down sand dunes as high as 175 feet to level ground for the El Segundo sewage plant.

4. The wartime Surinam river project in Dutch Guiana, South America, performed for the Aluminum Co. of America and which sped the transportation of much-needed aluminum to this country during World War II.

5. The New Jersey Turnpike project, where CAC compacted and elevated marshy areas along the route of

• Eighty-two year old Summerfield Baldwin carefully manipulates controls of Bucyrus-Erie 15-B shovel to excavate first layer of earth from site of new $1.5 million Baldwin Memorial Wing of Anne Arundel General Hospital in Baltimore, Md. Baldwin was honored for $375,000 contribution he made to building fund three years ago. Contract for the building, which was let to Stehle & Beans, Inc., of Annapolis, calls for completion by Dec. 31, 1953. Behind Baldwin is Oliver Steinberg, president of Reds Dove, Inc., the firm owning the 15-B.

the new superhighway. Over a six mile route, on which mud as deep as 50 feet was encountered, CAC spread 11 million cubic yards of wet sand. On the same project, solid foundations were laid for two new runways at the Newark, N. J., airport.

6. The Steep Rock Lake project in the Canadian Lake Country, north of Lake Superior. Here CAC was busy lifting a 60 million cubic yard "mud-pack from the face of the earth" to uncover valuable iron ore deposits under the lake.

The brochure also covers other CAC construction projects, especially jobs performed for private industry.

New Ditcher Application

A recent demonstration, conducted at Nassau, Bahamas, British West Indies, showed the ability of a modern mechanical ditch digging machine to operate in solid coral rock, and uncovered a new and unusual application for the machine as well.

The machine involved was a Barber-Greene Model 705-B "Runabout" rubber tired ditcher which was demonstrated for the machine's owners, Consolidated Construction Co., by a member of the Barber-Greene staff.

To demonstrate the machine, an area in a coral rock quarry was selected as the most representative site.

Although the machine's first task was cutting 7,000 feet of trench through solid coral rock, for the installation of telephone communications' cables on the island, its principal future application will be the production of coral building blocks.

Equipped with a 5½-in. bucket line, the Ditcher will dig a series of parallel trenches. These will be 4-ft. deep and

• Series of cuts, 5½-in. wide and 4-ft. deep were made by "Runabout" in solid coral rock, "reinforced" with strata of Chert. Hardness of material caused ditcher to leave vertical, machine-tool-like cut. Machine application was made recently in Nassau, Bahamas, British West Indies.

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HEAVY-DUTY FLOOD LAMPS

For Better Light — Longer Service — Lower Cost

Especially Designed For Efficient Service On

Shovels, Excavators, Drag-Lines, Roadbuilding Equipment Locomotive Cranes, Tractors . . .

Rubber Mounted Base — Standard Model

Portable STURDILITE

New model for inside or outside use. Equipped with convenient carrying handle and substantial pedestal base. Spring-mounted light socket. 4-ft. cord and connector. For all voltages. Weighs only 12 lbs.

STURDILITE Heavy-Duty Flood Lamps provide specially high light intensity and spread. Heavily constructed for years of trouble-free service. Hermetically sealed-beam lamp — no reflector to tarnish. Spring-mounted socket. Complete assembly mounted on rubber cushioned base to absorb vibration and shocks. Available in 6-8, 12-16, 24-28 and 110-120 voltages.

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— Specifications, Quantity Prices

Metal Spinning Division

PHOENIX PRODUCTS COMPANY

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PERFORMANCE BUILT . . . .
Omaha Dragline Buckets are tops in performance. Wedge shaped for easier loading and dumping. Perfect balance for smoother carrying and dumping. Smooth interior to reduce friction. That means Omaha Buckets are performance built. Available in four types. Send for catalog giving description and specifications.
OMAHA
DRAGLINE BUCKETS
DRAKE-WILLIAMS-MOUNT • OMAHA, NEBR.

• Above: Spinning blade bites into ironwood log as sawmill operates in tropical setting. Crane framework on Motor Vessel Robert G. LeTourneau looms up amidst palm trees lining beach. Below: This is borrow pit in steaming Liberian jungle. Tournapull, push-loaded by Allis-Chalmers tow tractor, excavates sandy clay to spread on air

will be spaced 3-ft. apart. After completing these cuts, the machine will make another series at right angles. This second series of trenches will also be 4-ft. deep and will be spaced 3-ft. apart.

The result will be rows of standing blocks 3-ft. x 3-ft. x 4-ft. These blocks will then be wedged out and cut into smaller sizes as required. Coral in its natural state is relatively soft, that is, soft for rock, but after exposure to air, solidifies to a much harder degree and is used extensively in the islands for building walls and even floors.

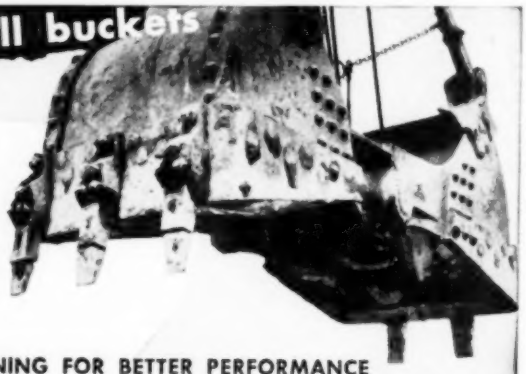
Liberian Development Includes Earthmoving

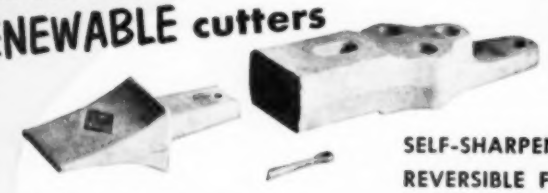
Earthmoving equipment and other machinery is being used extensively in the land improvement aspects of the missionary - agricultural development program recently inaugurated by LeTourneau of Liberia, Ltd. A subsidiary of LeTourneau Technical Institute of Longview, Tex., the newly-created corporation is extending the "earn-learn" program of the Institute to the people of Liberia, in addition to taking the Gospel to the natives.

Equipment has been brought from the United States to the newly-founded

NEW ECONOMY for clamshell buckets

BLAW-KNOX TOOTH BASES with REVERSIBLE and RENEWABLE cutters





The tapered shank of the cutter wedges securely into the tapered pocket in the base. For replacing or reversing, a sharp hammer blow on the sides of the cutter loosens it from the base.

SELF-SHARPENING FOR BETTER PERFORMANCE

REVERSIBLE FOR LONGER LIFE

QUICKLY AND EASILY REPLACED FOR ECONOMY

BASES ARE BOLTED TO THE LIPS AND ONLY THE CUTTERS ARE REPLACED

Blaw-Knox tooth bases are available with holes drilled for existing arrangement of tooth bolts on many Blaw-Knox Clamshell Buckets ranging in size from ⅜ to 1-cu. yd., in general purpose, rehandling, hard digging and round nose hard digging types. For some other bucket sizes, blank tooth bases can be drilled to suit existing bolt hole arrangements. See your Blaw-Knox distributor for full details about bases and cutters for *your* buckets.

BLAW-KNOX

BLAW-KNOX EQUIPMENT DIVISION

Blaw-Knox Company

Farmers Bank Bldg., Pittsburgh 22, Pa.

colony — named Tournata — by an LSM converted into a freight carrier.

Machines being used are getting rigorous tests of their working capabilities under tropical and humid conditions typical of West Africa.

Name AGC Head

C. P. Street, building contractor of Charlotte, N. C., was elected president of The Associated General Contractors of America for 1953 at the association's 34th annual convention. John MacLeod, of Paramount, Calif., was elected vice president. The four-day AGC meet was held at Miami, Fla. during the last week of March. A total attendance of more than 1500 from all over the country was recorded.

Street, who is secretary and general manager of McDevitt & Street Co., of Charlotte, succeeds A. S. Horner, of Denver, Colo., as head of the AGC. The association's more than 6200 members each year perform over 80% of the nation's contract construction work as well as a large volume of work overseas. William Muirhead, of Durham, N. C. is secretary-treasurer, a permanent office.

Eighteen national directors of the association also were elected by the mail ballot. They are: A. S. Macdonald, Strong & Macdonald, Inc., Tacoma, Wash.; Wayne C. Sutton, Washington Asphalt Co., Seattle; Fred J. Early, Jr., Fred J. Early, Jr. Co., San Francisco; Robert V. Edwards, American Pipe & Construction Co., Los Angeles; David A. Olson, Olson & Hart, Denver; W. Murray Werner, The Werner Co., Shreveport, La.; J. Rutledge Hill, Gifford-Hill & Co., Inc., Dallas, and Wardner Scott, W. A. Lynn Construction Co., Lincoln, Neb.

Also, S. R. Okes, Okes Construction Co., St. Paul, Minn.; Robert E. O'Connor, J. C. O'Connor & Sons, Inc., Fort Wayne, Ind.; E. J. Wheeler, Frank Messer & Sons, Inc., Cincinnati; W. M. Wheeler, J. A. Jones Construction Co., Atlanta, Ga.; J. L. Ewell, Ewell Engineering & Construction Co., Lakeland, Fla.; V. B. Higgins, V. B. Higgins Co., Greensboro, N. C.; H. B. Alexander, H. B. Alexander & Son, Inc., Harrisburg, Pa.; H. C. Turner, Jr., Turner Construction Co., New York; Charles B. Solomon, Geo. B. H. Macomber Co., Inc., Boston, and W. J. Salter, Stewart & Williams, Inc., Augusta, Me.

Boost Power Supply At Alaskan Air Base

Electric equipment now being built by the General Electric Co. will be used to boost the power supply and

Here's what makes "HEIL EQUIPPED" DUMP TRUCKS PAY-OFF!

Heil double arm, twin cylinder, heavy-duty hoist.

Heil double arm, single cylinder, light and medium duty hoist.

HEIL Bodies and Hoists are built with *your* job in mind . . . to pay off in profit. Heil hoists are fast-acting . . . in less than 12 seconds bodies are elevated to 50° or more! The rugged arm assembly is designed for strength, without dead weight. The simple toggle principle of the linkage eliminates troublesome parts, requires extremely low oil pressure. Check these other Heil dump unit advantages: Lightweight design for bigger payloads; no-sag floor construction for long body life; low mounting height to make hand-loading easier.

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PLATFORM CONVERSION HOIST

Heiliner 2-wheel Tractor and Scraper

CONTRACTOR'S BODY

George E. Nettels

George E. Nettels, 59, Vice President and Member of the Board of Directors of the Pittsburg and Midway Coal Mining Company, Pittsburg, Kansas, succumbed to a heart attack March 20, 1953.

The coal executive was widely known throughout the coal mining industry, having been engaged in coal mining operations since 1922. He served as President of the Southwestern Coal Operators' Association in 1950-51 and was a member of the Kansas Professional Engineers and the Land Use Committee of the National Coal Association.

Mr. Nettels was a graduate of the University of Kansas and was an active member of the University Alumni Association. He was captain of the 1920 University football team and a member of the Alpha Nu Chapter, Beta Theta Pi.

Active in civic affairs, Mr. Nettels was a member of the Benjamin Fuller post of the American Legion, serving as Commander in 1945-46, and the Pittsburg Board of Education in which he was completing eight years of service as a board member. He held membership in the First Presbyterian Church of Pittsburg and served on the Board of Trustees.

Survivors include his widow, Mrs. Mathilde A. Nettels; two daughters, Mrs. E. A. Charles, Long Island, New York, and Mrs. Clair H. Gillin, Pensacola, Florida; two sons, George E. Nettels, Jr., Kansas City, Missouri, and John Curtis Nettels who is presently attending the University of Kansas. Four grandchildren and one brother, Curtis P. Nettels, Ithaca, New York, also survive Mr. Nettels.

furnish heat for hangars, offices, and personnel quarters at one of the U. S. Air Force's vital trans-polar defense bases.

The Ladd Air Force Base near Anchorage, Alaska, will use about $1.5 million worth of General Electric power generation, switching, and distribution apparatus to supply electric power for additional aviation facilities.

In addition to furnishing power, single-cycle, automatic extracting noncondensing turbines will supply exhaust steam to heat hangars, offices, repair shops, and living quarters of military personnel.

Indoor high and low-voltage switchgear, both metal-clad and drawout, also will be supplied for the powerplant expansion which is expected to be in operation in 1954. Other equipment to be furnished by G.E. will include power and distribution transformers and limitamp control for pump motors.

G-E engineers have designed a coordinated power system to meet Air Force requirements of quick installation, easy maintenance and repair in case of bomb or other damage, and a reliable electric system that will stand up in emergency situations.

H. W. Beecher and G. E. Wieland of Seattle, Wash. are the consulting engineers for the expansion with the general contracting being handled by Lytle-Green-Birch also of Seattle. Electrical contractor for the installation is Charles A. Langlais & Son, Inc., of San Francisco, Calif.

Safety Council Issues First Aid Data Sheet

Unit First Aid Kits, a new National Safety Council data sheet, provides a useful guide to better first aid for companies with scattered operations.

To assist companies in the selection of units for the first aid kits, the Council's data sheet includes a chart giving recommendations for some 25 occupations. The assortments of treatment and dressings are based on surveys, trade association recommendations, state regulations, or National Safety Council recommendations as to what items are most generally used in a given industry.

The data sheet contains a simplified accident and first aid report form as well as valuable information on first aid training and inspection and control.

Unit kits have treatment and dressing packaged for one-time use. With no half-empty bottles and half-used rolls of gauze, the kits remain sanitary during periods of infrequent use.

The kits come in four sizes. As a rule, one 24-unit kit should be used

for each 50 employees. Ten and 16-unit kits are satisfactory for smaller groups.

The kits can be tailor-made to each job as there are more than one hundred basic items to choose from. For instance, oil well workers will want snake bite kits and linemen will have use for poison ivy ointment. There are burn spray kits for larger body burns of the kind which occasionally occur on steam-powered drilling rigs and certain pipe line operations in remote areas where more approved types of medical treatment are not possible.

Copies of *Unit First Aid Kits*, data sheet D-202, are priced at 17¢ each. Quantity prices are proportionately less. For additional information write the National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

Set Turnpike Toll

A 60-day trial will be given a toll of $1.40 for automobiles to travel the full distance of the 88-mile Turner Turnpike between Oklahoma City and Tulsa.

The trust agreement with the bondholders provides a toll of $1.50 through 1955, subject only to change upon recommendation of the consulting engineers.

The turnpike authority asked the syndicate that bought the $38 million bonds to build the road for a reduction to $1 or to $1.25. Consulting engineers declined to recommend a decrease. However, a compromise was reached.

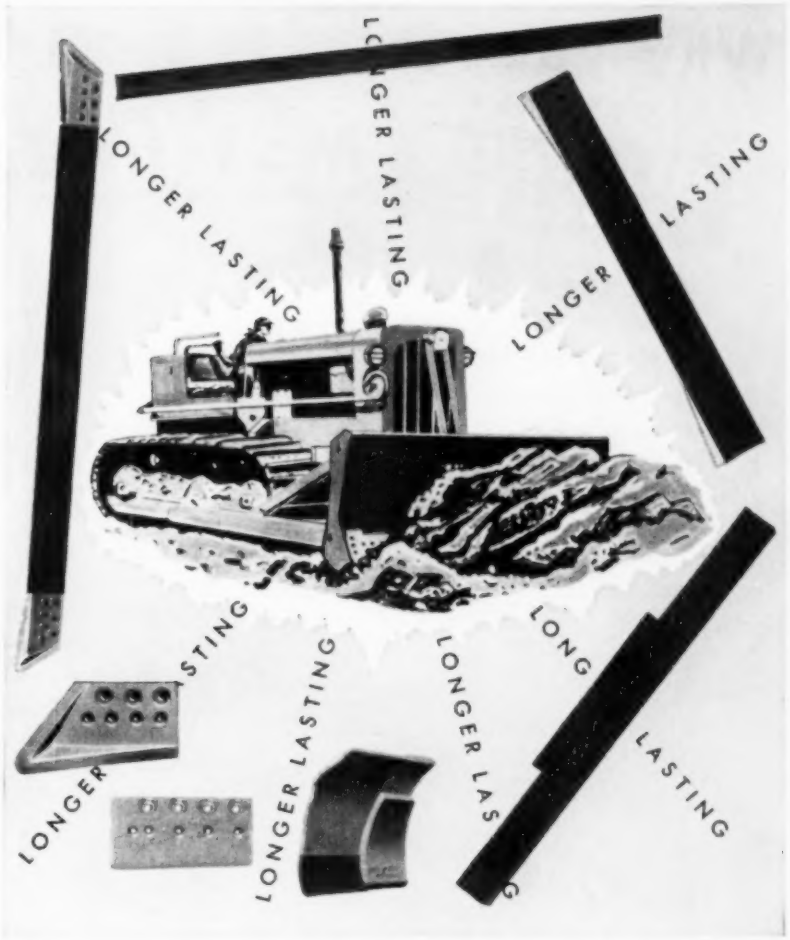
No change was asked in tolls charged other vehicles, namely $2 for light trucks, $2.10 for cars with trailers, $3 for buses and heavy trucks, and $4 for trucks with trailers.

Gavins Point Dam Go-Ahead Given

The go-ahead on a $17,525,046 contract for the second phase of construction at Gavins Point Dam, located on the South Dakota-Nebraska border four miles upstream from Yankton, was relayed to army engineers in March.

Colonel Hubert S. Miller, Omaha District Engineer, awarded the contract immediately following word of the unfreezing action. The Gavins Point job is the first to be released since the stop order was imposed on civil works February 21.

Bid as a joint venture, the work will be done by Western Contracting Corp., Sioux City, Ia.; Massman Construction Co., Kansas City, Mo.; and J. A. Jones Construction Co., Charlotte, N. C. The bid was more than a million dollars below the Government's estimate of $18,765,798.



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There's the right *ESCO* Blade and End Bit for all popular makes of dozers, angledozers, graders and scrapers. Your *ESCO* Dealer carries a wide selection in stock. He will be glad to recommend the *right ESCO* Blade and End Bits for your equipment and job. Call Your *ESCO* Dealer today!

The rougher the going, the tougher your ESCO Blades and End Bits get . . . because they are cast of special work-hardening ESCO Manganese and High Alloy Steel.

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Why you're WAY AHEAD with BUCYRUS ERIE Matched Equipment

Designed as a Team — Bucyrus-Erie equipment for the TD-24 was developed right along with this modern tractor — every unit has matched characteristics of weight, size, capacity and balance to take fullest advantage of its power.

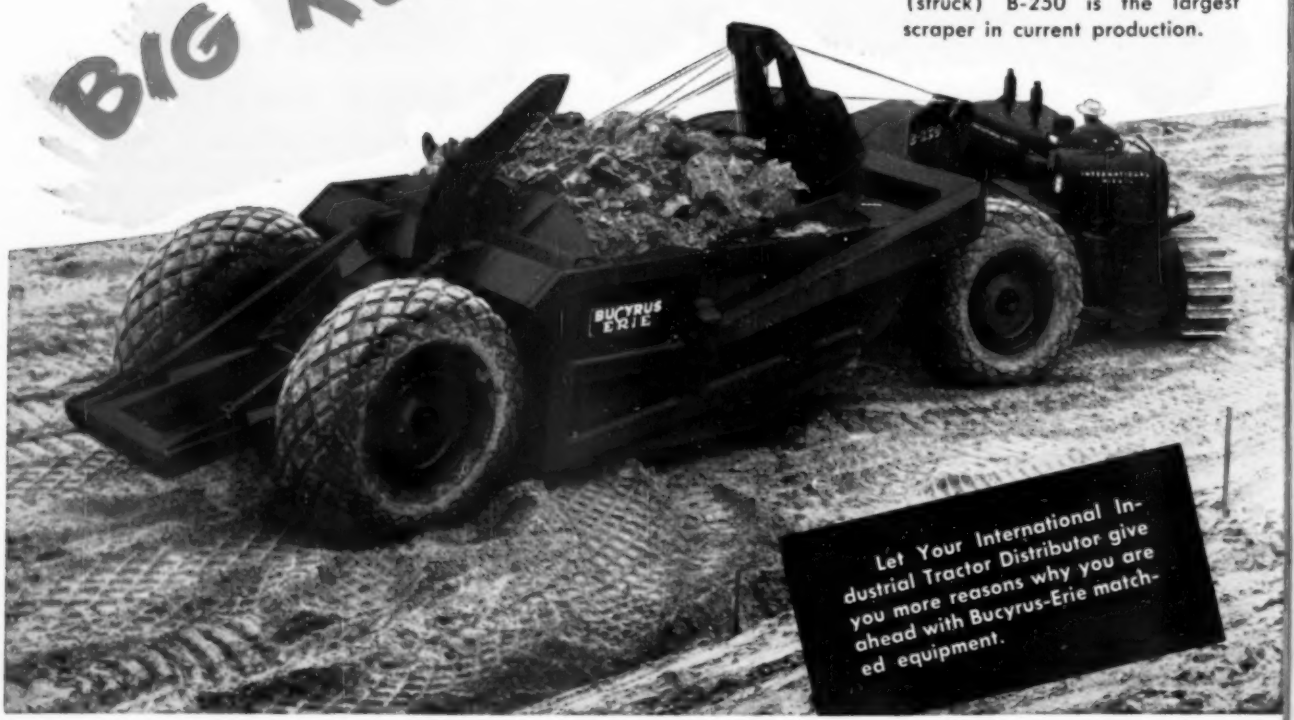
Wide Choice to Fit Your Needs — A complete line of equipment for the TD-24 is offered you by Bucyrus-Erie. Here you will find just the right working combinations to fit you needs.

Backed by Unequalled Experience — Each of the units in this broad line is backed by more than 70 years of experience in building tens of thousands of earthmoving machines, and by resources and facilities unique in the industry.

BUCYRUS-ERIE CO., South Milwaukee, Wisconsin

The BIG RED TEAM

Two Big-Capacity Scrapers work with the TD-24: The B-170A with 16-yd. struck capacity is the biggest of scrapers for loading without pusher help. The 22-yd. (struck) B-250 is the largest scraper in current production.



Let Your International Industrial Tractor Distributor give you more reasons why you are ahead with Bucyrus-Erie matched equipment.

for International TD-24 Tractors

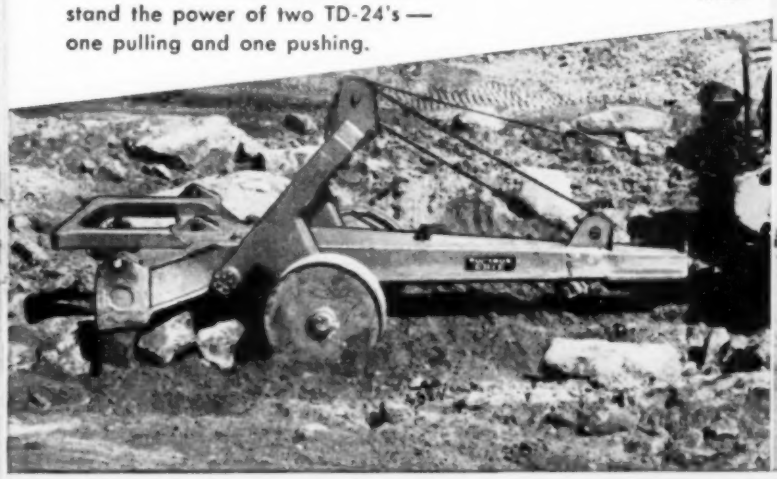
Choice of Two TD-24 Blades: The Bullgrader (shown) features three blade positions plus vertical tilt. The Bulldozer has straight across blade position.

Two Power Control Winches: The double-drum rear-mounted P-29 (seen in the scraper view) and the single-drum front-mounted P-15 (shown with the Bullgrader).

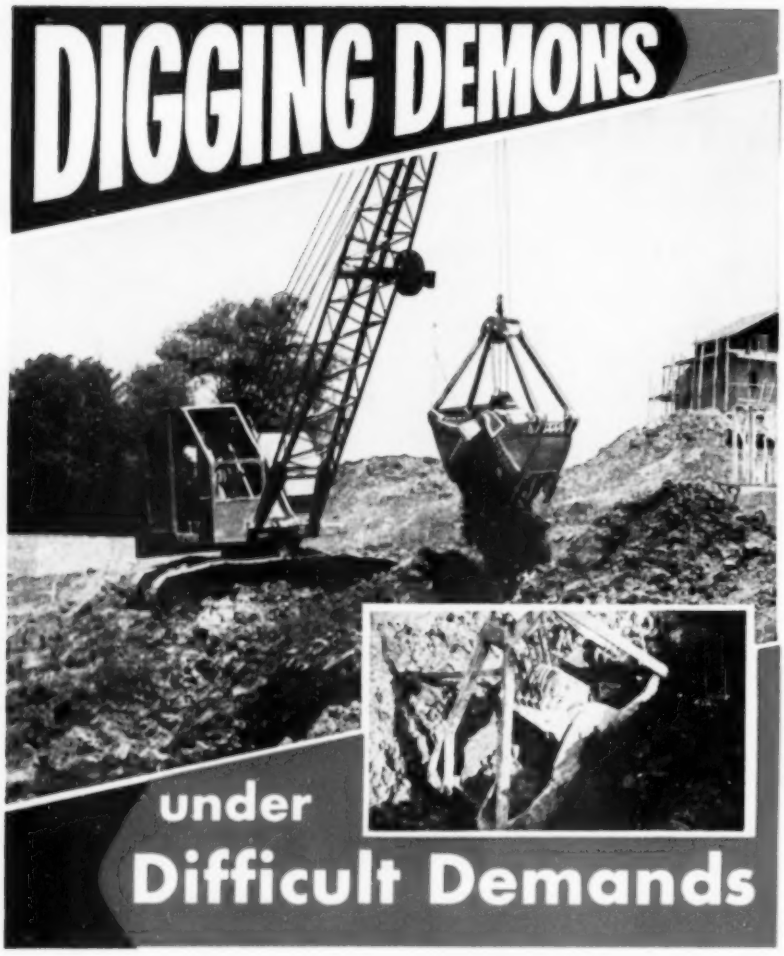
The CR-4 Ripper is designed to withstand the power of two TD-24's — one pulling and one pushing.

12752C

Four Pusher Plates: One mounts directly on tractor frame (shown here). Others mount on Bullgrader frame, Bullgrader blade or Bulldozer blade.



See Your International Industrial Tractor Distributor



The exceptional "DIG-ABILITY" of Owen Buckets has been acclaimed by crane operators and construction contractors alike since the first Owen was manufactured.

Proof of this is evidenced in the predominance of Owen Buckets seen in operation everywhere on large and small construction projects.

Write for the Owen Catalog and complete information on the line which includes an ideal bucket for every digging, handling or rehandling job.

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Branches: New York, Philadelphia, Chicago, Berkeley, Calif., Fort Lauderdale, Fla.

Equipment you ought to know about

Elec-Detec

Manufacturer: Anco Instrument Div., American Name Plate & Mfg. Co., 4254 W. Arthington St., Chicago 24, Ill.

Claims: As a practical help in maintenance, testing, and inspection, a new audio-video model of the Elec-Detec, portable electronic instrument designed for locating noise sources in all types of mechanical equipment, has been introduced.

The unit, known as Elec-Detec Model V, includes a milliameter for checking sound impulses visually, in addition to the standard headphones for audible operation. The combination enables the operator to "see as well as hear" the location of the source of trouble in bearings, pistons, gears, ratchets, cams, clutches, and other moving parts.

The accurate performance of the new video unit is assured by the use of a highly stable germanium crystal diode in the circuit. This crystal serves to rectify the current to record the electrical impulses accurately on the dc milliammeter, and to provide the wide frequency response required.

Safety Hat

Manufacturer: United States Safety Service Co., 1215 McGee St., Kansas City, Mo.

Claims: The new SAF-HED hat is a rugged safety hat with longer life. It's light in weight and comfortable to wear. The new safety hat is made of fiber glass.

Fiber glass is said to offer the greatest strength-weight ratio of any material currently being used in the manufacture of safety hats. A highly resilient material, fiber glass will not split, crack or deform.

The SAF-HED meets the A.S.A.

code for dielectric break-down and exceeds the A.S.A. code for impact resistance.

The cradle of the hat can be quickly and easily adjusted to fit all head sizes.

Power Control Unit

Manufacturer: Baker Manufacturing Co., Springfield, Ill.

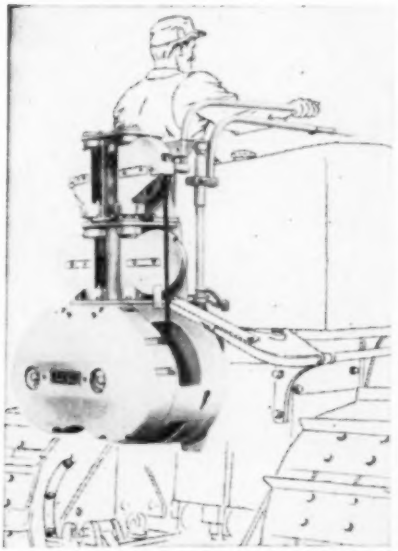
Claims: A new power control unit designed for high capacity and easier control features adequate line pull for even the most severe operating conditions.

The new rear mounted unit, the PCU-75, combines a multiple disc clutch with a rugged, simplified brake design. The clutch actuates within a shorter distance than other-type clutches, and can be engaged or disengaged with a lever travel of only five inches. Fewer adjustments are required with the multiple disc design, with wider-spaced adjustment periods.

The PCU-75 brake system has single-point adjustment, with tension changes made from one adjusting bolt. The simplified design permits faster braking, faster release action, easier for the operator to control.

Hand levers on the PCU-75 are designed for horizontal swing-action, and may be adjusted by the operator for length, angular position, and height. The "hand load" is particularly light, to reduce operator fatigue.

Line speeds reach 710 fpm with full drum at 1700 rpm. Capacity is 225 feet of ½-in. diameter cable. The PCU-75 is designed for use on Allis-Chalmers HD-15 and HD-20 tractors and on other tractors of comparable horsepower.



Motor Grader

Manufacturer: Allis-Chalmers Manufacturing Co., Milwaukee, Wis.

Claims: Front wheel lean and power circle turn are now offered as optional equipment for the 40 hp, 8800-lb. tandem-drive Model D motor grader.

Mechanism for the front wheel lean includes axle and steering knuckles, additional tie bar, and wheel lean cylinder. The wheel lean has a range of 25 degrees each way, comparable in design to that in the 104 hp Model AD-40 motor grader in the line. This gives ample range for ditching and for counteracting side draft. Front axle has the same high arch for clearance as on the standard Model D—15-5/16 inches with 6.50—16 tires and 19 inches with 7.50—tires. Axle tilt is 15 degrees.

Wheels are leaned by moving the

Sauerman
CRESCENT SCRAPERS

dig, haul and place more yardage
faster—at lower cost!

Reduce difficult dig-haul-piling jobs to a simple, single operation with a Sauerman Crescent Scraper. Sizes range from ⅓ to 15 cu. yds. to cover the needs of material handling jobs . . . large or small.

The Crescent, with rugged toothed-blade, penetrates the hardest material with plowshare ease. The unique bottomless scraper gathers a full load on the forward pull and hauls at ground level to the discharge point for an instantaneous, clean dump. A single operator situated in a safe, comfortable cab overlooking the work area, automatically controls all the digging, hauling and dumping operations.

Sauerman Scrapers are reasonable in first cost, simple and economical to maintain. Engineered to combine sturdy construction and wear-resistant lightweight metals, the Sauerman Crescent Scraper gives you small power consumption — diesel, gasoline or electric — compared to tonnages handled. Scrapers installed more than twenty-five years ago are still giving trouble-free service and are considered as good as new by their owners.

Write today for Catalog J for full information about the Crescent Scraper. Sauerman Bros., Inc., 574 S. Clinton St., Chicago 7, Ill.

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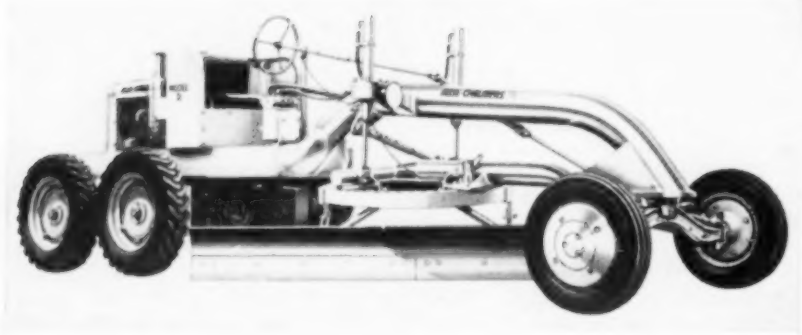
EARTHMOVING EQUIPMENT SINCE 1909



valve control lever. When the control is in neutral position the wheels stay in position any place in their full 50 degree range. No locks are required. Blade maneuverability is increased because the front of the Model D can be moved over more than a foot by leaning the wheels.

The power circle turn is operated by a hydraulic motor and reduction gear and includes a new circle. Self-cleaning teeth mounted on the outside of the circle, and self-locking reduction gears of the same design as on the AD-40 are used on the Model D. The new circle is designed to provide the same three-point mounting and provision for adjustment as on the standard Model D.

The circle turn provides precision control with a wide range of settings through its 135 degrees. When finishing subgrade or blacktop, the moldboard can be rotated without disturbing the road surface. The toe of the blade can be swung well inside the front tire to give sufficient range for ditching.

Equipment designed to work with the Model D in addition to these two new ones include rear-mounted loader, windrow eliminator, shoulder maintenance blade, hydraulically controlled scarifier, V-type snow plow, and special accessories such as completely enclosed cab, windshield wiper, heater, defroster fan, radiator shutter, hour meter, horn, special front tire equipment, and special moldboard equipment.

Road speeds from 2.7 miles per hour in first gear to 25.6 in fourth gear, with 3.3 in reverse, are available in the Model D.

Road Sweeper

Manufacturer: Eriez Manufacturing Co., Erie, Pa.

Claims: A new magnetic road sweeper, designed to remove tacks, nails, and other tramp iron from highways, parking lots, factory aisles, and airports, is called the Super-Sweeper. It can be pushed, pulled, or suspended.

The sweeper is made in three strengths and four widths: 24-in., 36-in., 48-in., and 60-in. sizes.

The handle is of tubular steel which is easily removed for storage and transportation. The Super-Sweeper's powerful Alnico V magnetic element will snap up and hold tramp iron which comes in its path. A loop at the end of the steel handle can be attached to almost any trailer hitch. The wheels are fitted with puncture-proof 8.00 x 2-in. tires. Heavy-duty models operate efficiently at speeds up to 10 miles per hour.

Static Electricity Ignition

Manufacturer: Heckethorn Mfg. & Supply Co., Littleton, Colo.

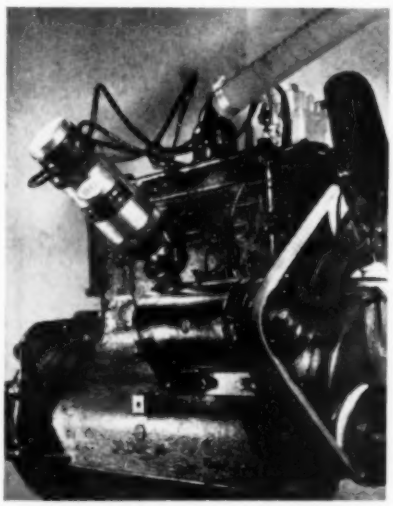
Claims: A recent automotive development, a new system which generates and harnesses static electricity for ignition has been announced by D. E. Buchanan, president of the Heckethorn Manufacturing & Supply Co. of Littleton, Colo.

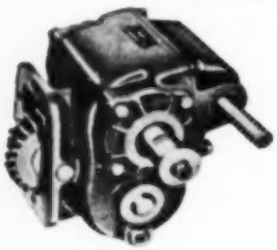
Buchanan explained that, following months of negotiations with the Societe Anonyme de Machine Electrostatiques (SAMES) of Grenoble, France, license agreements were recently completed. They give the Heckethorn Co. the right to manufacture and distribute the new ignition system in the United States and Canada for use on automobile, stationary, and marine engines.

"As everyone knows, static electricity is the kind that sparks when a cat's fur is stroked or when a comb is passed through your hair," Buchanan explained. "The electrostatic ignition system combines all the advantages any automobile designer or user could dream of. Tests performed at Heckethorn's Research Center show these advantages to be a reality: Small, self-contained generator-distributor is tamper proof, requires no adjustment or timing throughout its entire life, and eliminates coils, condensers, and breaker points.

"No interference is created to radio, television, or radar with the new system. Anyone who has gotten a jolt while testing sparkplugs will be pleased to know that he cannot get a shock from electrostatic ignition due to the high intensity, short duration, and infinitesimal amperage of the spark.

Electrostatic ignition differs from the two methods now in common use. Battery ignition, employing coils, condenser, and distributor produces a more intense spark at low speed than at high speed, resulting in poor performance and gasoline economy at high speed. Magneto ignition, although producing a strong spark at





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Wire Rope at Work—As you draw near New York City at the northern end of the 118-mile New Jersey Turnpike, this is the bridge that carries you high above the Passaic River. The picture, taken at a time when the bridge was near completion, shows two 146-ton girders for the main span being lifted simultaneously into place by Bethlehem Wire Rope.

These heavy steel girders made a tough lift, but no tougher than thousands of others entrusted to Bethlehem rope all over the country. Wherever there are heavy lifting or hauling jobs to be done, you will find Bethlehem rope right in the thick of things, hard at work. You will always know it by the black-and-yellow reel, the reel that tells you, "Here a good product is in service."

Bethlehem Steel Company, Bethlehem, Pa. On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

Mill depots and distributors from coast to coast stock Bethlehem rope for the following industries and numerous others:
MINING • CONSTRUCTION • PETROLEUM • EXCAVATING • QUARRYING • LOGGING • MANUFACTURING

high speed, is very weak at low speed making starting difficult.

Electrostatic ignition produces the same high voltage at any speed. Consequently, maximum performance of high speeds is assured as well as slower and smoother idling. With battery ignition much power is needed to crank the motor at sub-zero temperatures leaving little current to energize the ignition system, making starting difficult. Electrostatic ignition requires no current from the battery.

The system has no breaker points to limit the speed of the engine. Engine speeds of more than 6000 rpm and compression ratios greater than 12 to 1 can be a reality.

Tractor Shovel

Manufacturer: Caterpillar Tractor Co., Peoria 8, Ill.

Claims: The first highly mobile track-type shovel of two-yard capacity will be available in April according to an announcement from the manufacturer. It will be called the No. 6 Shovel.

The new shovel will be powered by a 66-drawbar-horsepower crawler on a non-oscillating track frame. It is an integral unit with the tractor shovel frame bolted and welded at widely separated points on the tractor engine support channels and the transmission housing. It is designed from the ground up for excellent balance and great stability.

Aiding this is rear mounting of the hydraulic system which also permits better radiator cooling and, along with the high seat position, better visibility.

The lift cylinders are horizontally mounted above the tracks to avoid the possibility of clogging with dirt and side door panels prevent dirt from getting to the engine.

The unit is engineered for good frame clearance underneath. There also is a heavy duty bumper guard in addition to the customary radiator guard. A heavy section cross brace between the lift arms maintains bucket stability.

Dumping height is 10-ft. 9-in. with a reach of 3-ft. 5-in., insuring dumping of materials in the center of all standard hauling units.

The big bucket of the No. 6 is made of layer plate to withstand abrasive action. In both the raised-carry and raised-dump positions, the operator has unobstructed visibility both front and rear.

Good clearance action is assured by a bell crank striking the stop on the lift arm to shake out sticky materials. The bell crank off center mechanism assures a heaping load at each pass by a rapid tilt of the bucket to the carrying position.

Lift arms are of welded box construction for maximum strength and minimum weight. The bucket control arms are made of solid steel and a box-type cross brace ties the lift arms together.

In comparison with the D6 Tractor the seat is nine inches higher and six inches further forward to provide excellent side visibility. The surge tank and hydraulic control valves are contained in one unit in the rear. The operator is unencumbered by flexing hydraulic hoses.

To keep operator fatigue at a minimum, the control levers for the bucket and the lift arms are located so both may be operated with one hand. The hydraulic lift arm control lever, once engaged, remains in position without holding. The operator has both hands free to shift gears or turn the shovel, while the bucket continues lifting. At the maximum lift, an automatic kickout disengages the lever.

Five gears forward and four in reverse make the machine adaptable to a wide range of job conditions. Large front idlers give the No. 6 Shovel greater stability and permit more accurate control of the machine. It has longer track roller frames than the D6 and one track roller has been added to each side for increased traction and lateral stability.

The 18-in. flat center shoes were designed specifically for tractor shovel work and combine the characteristics of flotation, traction, and resistance to side slip. The raised center of the shoe serves as street plates and the cut-out centers give better clearance action. Detachable grousers are available if required.

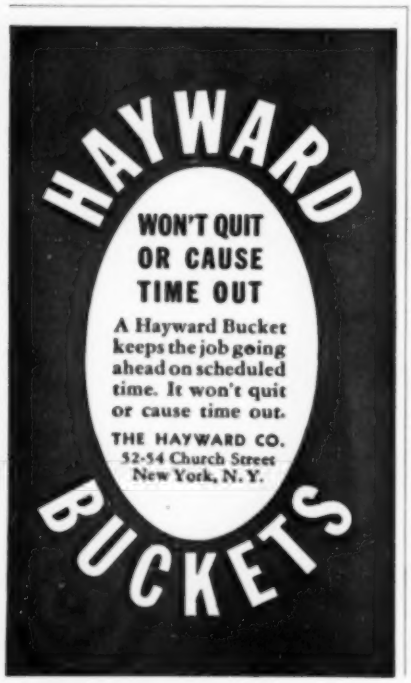
A solid bar is used in place of an equalizer spring for great cross stability and to prevent track oscillation. The air cleaner is to the left of the operator, away from dust.

Two Scrapers

Manufacturer: Wooldridge Manufacturing Co., Sunnyvale, Calif.

Claims: Introduction of two new high-speed self-propelled scrapers, the TH-B90, with heaped capacity of 11.0 cubic yards, and the TH-B110, with heaped capacity of 13.0 cubic yards has been announced. The standard 142 series has a heaped capacity of 17.5 cubic yards.

Both new rubber-tired models incorporate the same basic design and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WON'T QUIT
OR CAUSE
TIME OUT
A Hayward Bucket keeps the job going ahead on scheduled time. It won't quit or cause time out.
THE HAYWARD CO.
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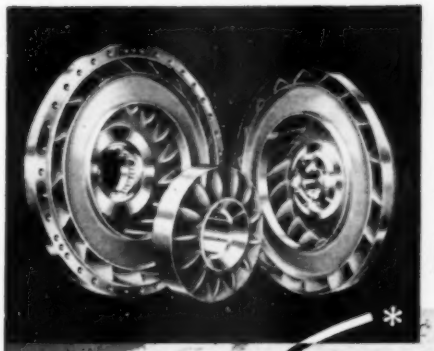
New York, N. Y.
BUCKETS



Eventually EVERY Shovel Will be **TORQUE CONVERTER** *Driven*

But You Can Profit by its advantages NOW with a MANITOWOC

Get *extra* yardage, higher daily output, faster cycles, more bail pull, less breakage, smoother operation with a TORQUE CONVERTER equipped MANITOWOC.

Gives you *extra* power for tough going — smoother, faster acceleration throughout the entire cycle — enables you to handle bigger loads, shock loads, jars and jolts without damage to mechanism.

It's the greatest advancement in shovel history — and it's yours NOW, in the Manitowoc line. Manitowoc pioneered this development — more than twelve years ago — hundreds of units now operating. The big swing is to the mighty Manitowocs — Torque Converter driven. Get complete details from Manitowoc Engineering Corp., Manitowoc, Wisconsin.

* BALANCED POWER

Engine operates at maximum efficiency at all times — full engine power for full loads — just enough power for light loads — automatically selected. Engine cannot be stalled — no delays waiting for engine to pick up speed.

SMOOTHER OPERATION

Oil cushion absorbs jolts and jars. Saves cables, clutches, gears and assemblies. Less down time means more yardage.

PRECISE CONTROL

"Fraction of inch" control by either hand throttle or foot accelerator, without slipping clutches or shifting speeds. Makes an expert out of an average operator. Ideal for crane service, setting steel and stone, and general erection work.

MANITOWOC

SHOVELS 1-5 YD. — Speedcrane — CRANES 18-100 TON

operating characteristics as the larger machines, including positive hydraulic steering, air operated power control, "boiling bowl" loading, positive roll-out ejector, and heavy duty construction throughout, with many components interchangeable with the larger models.

Model TH-B90 is equipped with a 150 hp Cummins Diesel engine, and has capacities of 9.0 cubic yards struck, 11.0 cubic yards heaped. The TH-B110 utilizes a 180 hp Cummins Diesel, and is rated at 11.0 cubic yards struck, 13.0 cubic yards heaped. All 142 series models are powered by 225 hp Cummins Diesels, and are rated at 14.0 cubic yards struck, 17.5 cubic yards heaped.

Extremely high ground clearance, short turning radius, and ample flotation and traction are said to give the new units a high degree of maneuverability. All features of the new models have been subjected to extensive performance tests on actual earthmoving jobs.

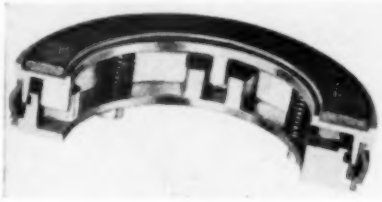
NEWCO* WIRE ROPE
CLAMP
AND THIMBLE
*trade mark
..the heavier the load, the tighter it holds!

● NO SLIPPAGE
● 11 SIZES TO FIT WIRE ROPES FROM ⅛" TO 1"
● DEVELOPS 85 TO 90% ULTIMATE ROPE STRENGTH (95 to 100% Catalog List)

The strongest and most efficient attachment for wire rope. Made of permanent castings with standard replaceable bolts and nuts. NO WRONG SIDE—threads either way. Easy to install and never needs lubricating.

See your distributor or write direct to

NEWMAN MFG. & SALES CO., Inc.
Dept. EE-2 Box 5939, Kansas City 2, Mo.



Grease Seal

Manufacturer: Sure-Seal Equipment Co., 2424 East Burnside St., Portland, Ore.

Claims: A new type grease seal for Caterpillar D-4, D-6, D-7, D-8, and International TD-24 tractors has been announced by the manufacturer. The new seals will not leak or puncture, due to high pressure lubrication methods.

Two neoprene rubber seals are used in place of the usual single seal. Solid cast metal sides that have no holes or notches, prevent lubricating grease, when inserted under pressure, from puncturing the rubber seal.

Final Drive Bellows Seals for D-7 and D-8 tractors are also manufactured to the same general design.

Automatic Truck Transmission

Manufacturer: Ford Division of Ford Motor Co., P. O. Box 638, Dearborn, Mich.

Claims: The new 1953 line of F-100 series trucks including the pickup and panel delivery will be equipped with fully automatic transmissions.

Tests conducted on a test hill by engineers demonstrated that the new transmission has greater pulling power than conventional transmissions. Two pick-ups were overloaded to the stall limit for a conventional transmission on a 30% grade. The overloaded pick-up equipped with the automatic transmission negotiated the hill with ease.

The new automatic transmission will be available for light trucks with either the Ford V-8 or the 6-cylinder engines.

They are particularly applicable for service in the construction and cement industries for handling sand, gravel, and cement.

The rubber lined pumps have the lining vulcanized to the cast iron parts with a thermosetting cement. They are suitable for heads up to 100 feet. This type of Vacseal can be made acid proof by merely changing the gland bushing and installing a shaft sleeve.

All metal pumps are constructed of Ferloy iron for handling larger particles and higher heads than the rubber lined type. Heads up to 150 feet are possible.

Drafting Tool

Manufacturer: Loomis Industries, Box 422, Berkeley 1, Calif.

Claims: As one instrument, PARALINE provides T-square, straightedge triangle, protractor, 1/32 inch scale, and parallel rule. It measures 10½ x 3-3/16 inches and requires no attachments or board clamps. PARALINE has metal parts incorporated in one sturdy section, thus eliminating slippage.

Angle Iron Cutter

Manufacturer: Manco Mfg. Co., Bradley, Ill.

Claims: The new Guillotine Angle Iron Cutter slices with a straight, clean shear and causes no deformation of the angle iron end.

The unit is available in portable models with hand-pump hydraulic action for use in field erection work. For production cutting applications, electric hydraulic pumps are available.

Capacity of the Model A-20-B is 3-in. x 3-in. x ¼-in. or 2½-in. x 2½-in. x 5/16-in.

The Guillotine Angle Iron Cutter

does not have to be bolted down or otherwise mounted for operation. Adaptations of these units are also available for cutting special shapes such as channel or H-beam.

Overhauling Weight

Manufacturer: General Machine & Welding Works, 1100 E. Second St., Pomona, Calif.

Claims: The new Miller overhauling weight, or "Headache Ball" as it is called, is often necessary as added weight for single hoisting lines. The ball supplies the needed weight to get an unweighted line down from the top of the rig.

The Miller angular contact, ball bearing swivel provides load control on any weight lifting equipment. The three races of ball bearings insure that Miller swivels always turn freely under the heaviest loading. Twisting forces on the wire rope are eliminated.

Miller overhauling weights come in five sizes: 7-in. diameter ball, weight 62-lbs.; 9-in. ball, 128-lbs.; 10-in. ball, 165-lbs.; 11¼-in. ball, 200-lbs.; and the 13-in. ball at 322-lbs. All sizes are available with latched hook at a slight additional charge.

Steel Coating

Manufacturer: Steelcote Mfg. Co., St. Louis, Mo.

Claims: A new line of products now available under the trade name STEELAST has come out of the research work done on stainless steel coating. The formula for STEELAST products is basically the same as that of stainless steel coating in that both use a vinyl plastic vehicle, the primary difference being that a change of pigment makes possible many colors.

STEELAST produces a tough film which is impervious to moisture, resistant to most chemicals, and is odorless and non-toxic when dry.

The uses in which STEELAST offers advantages over ordinary coatings are protection and finishing of metal

RENT
INTERLOCKING
STEEL
SHEET
PILING
"FASTER from FOSTER"
ALL LENGTHS & ALL SECTIONS TO MEET ALL YOUR JOB NEEDS
Foster's lower rental rates on all standard piling sections give you a low fixed expense as an added competitive advantage when bidding on jobs. You can always count on reliable service! RENT: Pile Hammers and Extractors.
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WELLMAN *Williams Type*

MORE YARDAGE PER DAY

● Elimination of excess materials and careful weight distribution permit rapid, rhythmic operation of Wellman Dragline Buckets. Operators can cover a wider digging radius with this streamlined bucket.

Built of special alloy steel, using strong welded design, Wellman buckets provide strength and stamina for long-term economy. Perforated designs also available. You'll do better with Wellman.

Want Facts? Write for free descriptive bulletins

Dragline, Clamshell, Custom-Built Buckets Stone and Wood Grabs

THE WELLMAN ENGINEERING COMPANY
7000 Central Avenue
Cleveland 4, Ohio

surfaces on original equipment, and maintenance of machinery, pipes, tanks, duct work, and metal building materials, indoors and out. STEELAST can be sprayed, brushed or dipped. It will withstand constant wet heat up to 180° Fahrenheit and constant dry heat up to 300° Fahrenheit. Dries to handle in 30-60 minutes after spraying; 2-3 hours for recoating. May be force-dried in 10 minutes.

Tractor Loader

Manufacturer: Jaeger Machine Co., Columbus 16, O.

Claims: The one cubic yard tractor loader model combines a static load capacity of 5000 lbs. with ability to turn in a 14 ft. radius, hoist its bucket from ground to 8-ft. 2-in. dumping clearance in nine seconds, and travel at speeds to 18.7 miles per hour forward and 28.2 miles per hour in reverse. Torque converter drive automatically applies the power needed to enter material and fill bucket in one movement without shifting gears or need for impact loading.

All load is centered on the large front driving wheels for maximum traction and balance. Instead of humping these wheels as it enters a pile, the rising bucket transmits a downward pressure on the big 13.00 x 24 tires, increasing their tractive capacity. Rear axle steering, with power booster, makes possible the short turning radius and unusual maneuverability, and also insures steering control when front wheels are in soft ground. Fifty-five horsepower gasoline or Diesel engine, at rear counterbalances the bucket load in front.

Power is transmitted to the five-speed transmission through a Fuller torque converter which eliminates shock loads on the driving mechanism and automatically adjusts the power to the load requirement. Gear shifting is used only to increase efficiency.

In combination with the five transmission speeds, the torque converter provides an infinite number of gear ratios, for maximum speed and power under all conditions. A single reversing lever changes travel direction without shifting speed gear and each reverse speed is about 50% higher than its equivalent forward speed. The machine has a ground clearance of 12-inches and need for underslung counterweighting has been eliminated by making both the front end and rear radiator grille of massive castings.

All functions are under hydraulic control, including power control of bucket. Float valve, which permits bucket to float when desired, is standard. Bucket is wider than tires to permit working flush to curbs and walls. In loading, the boom arms crowd the bucket 13 inches forward as it rises, to insure a full bite. At maximum height, bucket is 10-ft. 4-in. under the hinge with 8-ft. 2-in. dumping clearance and a reach of 24-inches ample for loading gondolas. At 7-ft. dumping clearance its reach is 34½ inches.

A-C Welder

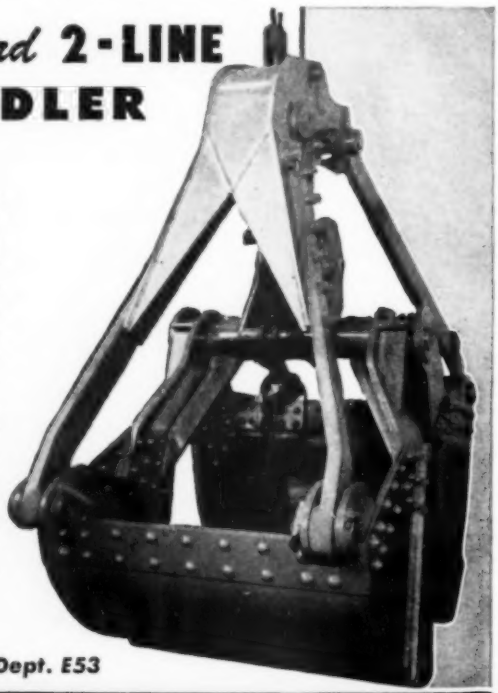
Manufacturer: General Electric Co., Schenectady 5, N. Y.

Claims: A redesigned 300-ampere a-c welding transformer features stepless current selection from 40 to 375 amperes.

The new welder, for practically all applications from light-duty, low-current sheet metal work to heavier-duty, high-current industrial jobs, incorporates an enlarged scale and finely threaded screw adjustment to facilitate easy current selections. It accommodates electrodes from 3/32 to ¼-in.

ERIE *Standard* 2-LINE REHANDLER

THIS compact Lever Arm Rehandler Bucket of normal proportions has ample closing power to fill to capacity in compact materials, and is so designed that the reeving can be adjusted to obtain maximum speed with capacity grabs in loose materials. We have reduced the "height open dimension" thus requiring minimum headroom, enabling you to pile higher and to discharge into higher hoppers. Lighter weight alloy construction provides more pay load (scoop contents) less bucket dead weight. To see this bucket in all detail write for bulletin 403.



• *Write for Booklet 403, Dept. E53*

ERIE BUCKETS • *A Complete Line*

Erie Steel Construction Co., 266 Geist Rd., Erie, Pa.

BUCKETS • AGGREMETERS • PORTABLE CONCRETE PLANTS

diameter, and has a handy range switch which enables the operator to change quickly from high to low or low to high range.

Arc-stabilizing capacitors in the redesigned equipment contribute toward increased production by enabling the operator to strike and maintain an arc without popouts.

Extra protection against high temperature coil failure is provided by silicone insulation, a resin which retains its mechanical and electrical strength at high temperatures. To further protect the coils from hotspots, they are ventilated by a forced-draft fan rated for continuous duty.

The new welder is built with studs at the base to simplify connecting electrode and work cables. Power-factor-correction capacitors assure low power costs. The new welder is 36 inches high, 21 inches in diameter, and weighs about 328 lbs.

Vibrating Screen

Manufacturer: Hewitt-Robins, Inc., 666 Glenbrook Rd., Stamford, Conn.

Claims: A new style vibrating screen has been developed for the sizing and processing of ore, coal, chemicals, grain, rock, and other bulk materials.

The new screen handles heavier loads than previous models. Equipped with a heavier yoke, it is mounted on coil springs instead of leaf springs formerly used.

The springs are encased in a neoprene rubber, accordion-type boot to keep out sand, stones, and other substances.

All units have 3-in. discharge lips. Both single and double deck models will be available. The single deck model is designed for easy conversion to two decks by the installation of skirtboards, screen cloth, a buckerup frame, and discharge lip.

Model MS employs the circle-throw principle which gives two positive strokes with every revolution of the counter-weights. These strokes bounce the material being screened out of and above the screen cloth.

At the same time, a circular action is imparted to the particles, making them rotate as they progress across the deck. Sharp and accurate sizing is a result of the action.

End Loaders

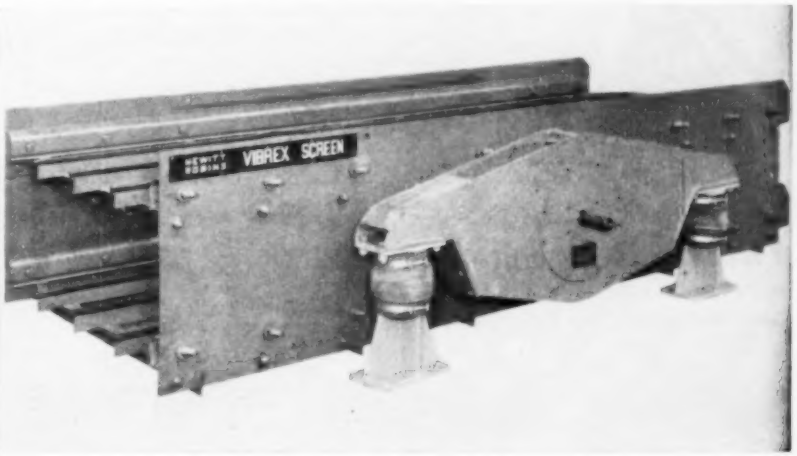
Manufacturer: Mixermobile Manufacturers, Inc., 8027 N. E. Killingsworth St., Portland 20, Ore.

Claims: Two new four-wheel planetary drive, four-wheel power steering front end loaders, the Scoopmobile Models LD5 and LD10, were recently introduced by the manufacturer. LD5 capacity, ¾ to one cy. LD10 capacity, 1⅝ to two cy.

Featuring an entirely new development in smooth, flexible power, these Scoopmobiles employ a new principle of construction by hinging two power axle elements together with an oscillating center-pin steering coupling. This coupling allows an oscillating twist to the axles, retaining full power on all four wheels in any degree of the turning radius.

Power from engine is transmitted to all four wheels through 3-to-1 planetary gearing, producing positive traction and tremendous "dig in" power. Hydraulically operated loading bucket has good "break out" action resulting in better and faster loading. Hinged coupling steering allows lateral spotting of bucket.

Discharge height — LD5, 8 feet 6 inches; LD10, 9 feet. Reversing transmission has eight speeds, forward and back.



New trade literature

Subject: **Slings and Fittings**
Content: A new 64-page handbook on Leschen slings and fittings is printed in a handy 4¾ x 6½ in. size — for convenient reference on the job or in plant offices. It contains more than 100 illustrations, showing standard wire rope slings, grommet slings, and multiple part slings, the latter including flat-laced, hand-braided slings. Charts show correct calculations for determining the size of slings required and correct sling angles in relation to loads. The new line of Red-Strand eight-part braided slings is featured in the handbook, along with the money-saving Pin-Lock Thimbles.
Where to get: A. Leschen & Sons Rope Co., 5909 Kennerly Ave., St. Louis 12, Mo.

Subject: **Trenchliner**
Content: Model 250 trenchliner is fully described in a new 16-page catalog, attractively printed and illustrated to show in detail some of the exclusive trenchliner features that provide greater production speeds and more versatile trenching operation. With maximum digging capacities of 12½ feet deep and 16 to 42 inches wide, the Model 250 is equipped to handle municipal and utility construction projects of water, gas, sewer, drainage, pipeline, and irrigation systems. The 250 has a range of 30 digging feeds, three bucket line and conveyor belt speeds, and four travel speeds. In addition, a full reverse allows the ladder type boom to undercut effectively and make vertical set-ins for footings against foundations. Some features incorporated in the new trenchliner include: Reversible truck height spoil conveyor that power shifts through the machine in less than one minute; shiftable and telescopic boom for offset digging at variable depths; all-welded arch type frame and fully enclosed gears throughout; automatic bucket cleaner and the exclusive "Tap-In" tooth points that are self sharpening and quickly replaced; automatic safety clutch to protect all machinery from shock load breakage. With three point suspension mounting, the weight of the 250 is well distributed over the entire tractive system for a low ground pressure of 7 psi. The 18-in. tractor type crawler shoes are fully self-cleaning. The crawler system is placed far ahead of the digging boom position to eliminate possible cave-ins of trench walls.
Where to get: Parsons Co., Newton, Ia.

Subject: **Hydromucker**
Content: A new, illustrated bulletin describes the Hydromucker as a production tool for speeding mucking operations in mine shaft sinking and for numerous other similar operations. The Hydromucker consists of a hydraulically operated ⅜ or ½-yd. clamshell bucket, two hydraulic pumps, electric motor, control bank, tagline reel, and three 45-ft. lengths of hydraulic hose. The motor, pumps, control bank, and oil tank are contained in an enclosed skid which is normally mounted on a shaft set located above the mucking operations. The hydraulic hose leads from the control bank of the unit over a stationary reel down to the bucket. The bucket is opened and closed by operator usually seated on a shaft set located between the muck pile and the power unit. Bucket can be controlled from this point by stringing draw cords from the levers on the control bank above, down to the shaft set.
Where to get: Bucyrus-Erie Co., South Milwaukee, Wis.

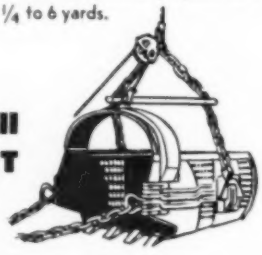
Subject: **Technical Bulletin**
Content: A new 60-page bulletin just released by the Power Crane and Shovel Association details information and data concerning power cranes, shovels, and draglines; and attachments, traction and operation. The bulletin is divided in two parts. In the first part attachments are classified into three basic groups: Shovel boom, crane type boom, and hoe boom. The basic groups, in turn, are broken down to show particular attachment applications. Again in the second part three basic determinations outline the section. (1) the proper boom for the job; (2) the proper capacity of shovel for the job; and (3) a suitable type of mounting. The bulletin emphasizes that it is essential to proper handling of any job to be sure that the correct machine is set-up correctly on the job. The bulletin is completely illustrated. Descriptions are clear, concise, and easy-to-read. At the back of the book a table showing approximate weights of materials is given. There are also ditch and slope dimension tables.

Where to get: Power Crane and Shovel Association, 74 Trinity Place, New York 6, N. Y. ($1.00)

Subject: **Water Cooling**
Content: *Engine Cylinder Liners* — eight pages illustrated—deals with problems in water cooling of Diesel engines. A particular problem is a "dynamic" pitting encountered in various services; marine, railroad, highway trucks, tractors, and cross

A NEW LEADER!
YAUN'S CLAMSHELL BUCKET
. . . . is 'way out ahead, because of new design features including stronger lips, sides and bottom, greater digging power, bigger payloads, lower center of gravity, faster dumping. Hard MANGANESE steel cutting edge of this all-welded bucket bites out the traditional "More Yards with a Yaun." Rehandling, general purpose and heavy duty, in sizes from ¼ to 6 yards.

THE OLD FAVORITE .... is still
YAUN'S DRAGLINE BUCKET
Its proven dependability makes it the best buy in its field. Three models, sizes from ⅜ yard up.



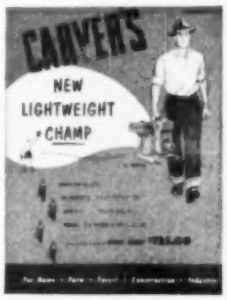
For information, write Bucket Department, Room 201.
YAUN MANUFACTURING CO., INC.
BATON ROUGE, LA.

country gas line compressor stations. Reasons are given for failure of protective measures to stand up in service and certain steps are outlined that may be expected to provide effective remedies.

Where to get: International Nickel Co., New York 5, N. Y.

Subject: **Lightweight Pump**

Content: A bulletin tells of a newly designed 1½-in. self-priming centrifugal pump. It illustrates and describes this versatile, gasoline engine driven pump which can be easily carried by one person. It will handle 6,000 gph at 17-ft. suction lift (including friction) against 17-ft. total head and will prime in less than 30 seconds with pump 10 feet above water. This new pump is the manufacturer's latest addition to its complete line of self-priming centrifugal pumps which range in capacity up to 250,000 gph. They can be had with gasoline engine, Diesel, electric, or belt drive.



Where to get: Carver Pump Co., Muscatine, Ia. (Bulletin No. 151 and 152.)

Subject: **Bulldozing Blade**

Content: The big 15X, as described in a new bulletin, integrates the Baker "roll action" blade and the frame of the 109 drawbar hp Allis-Chalmers HD-15 tractor. It features a 96-in. overall width (legal highway portability—no permits day or night) and a big capacity 51-in. high moldboard, which raises a full 39½-inches above ground.

Where to get: Baker Manufacturing Co., Springfield, Ill.

Subject: **Power for Construction**

Content: Diesel engines as the "foundations" of such construction equipment as shovels, ditchers, compressors, and crushers are discussed in the new booklet, *Power for Construction*. Twenty-seven photographs of various pieces of construction equipment powered by Caterpillar Diesel engines are contained in the eight-page booklet. There is a chart showing the horsepower ratings and kw ratings of all of the manufacturer's engines and electric sets.

Where to get: Caterpillar Tractor Co., Peoria 8, Ill. (Form 30601)

500-KW MOBILE UNIT

beats power shortage in rural Minnesota!

THE Rural Cooperative Power Association, at Elk River, Minn., *saved a lot of time, work, and money* recently, by mounting a complete diesel-powered, 500-KW electric generating system aboard a pair of heavy-duty LaCrosse low-bed trailers. Forced by increasing line loads to boost voltage and convert from single to 3-phase operation, RCPA had to energize many scattered substations serving towns, villages, and farm areas . . . *without interrupting vital electric power!* Problem was solved by this unique, trailer-mounted unit, complete with 250-gal. fuel tank, and all necessary accessories. Generator rides on giant shock absorbers for safe mobility over rough terrain, while 6 leveling screw-jacks keep moving parts in perfect alignment when operating. Second LaCrosse low-bed carries spare 500-gal. fuel tank, 325 gals. water for 2 large radiators, and 7 banks of transformers supplying 400, 2400, or 7200 volts, plus lighting. Two trailer units operate as a "team" in RCPA's substation conversion work . . . *can also rush emergency power wherever needed.* YOU, too, can save money by mechanizing your operations on job-proved LaCrosse Trailers! 85 low-cost models . . . 6 to 67 tons capacity . . . flat, drop, or tilting platforms! Write TODAY!

Check Today!

LC-27

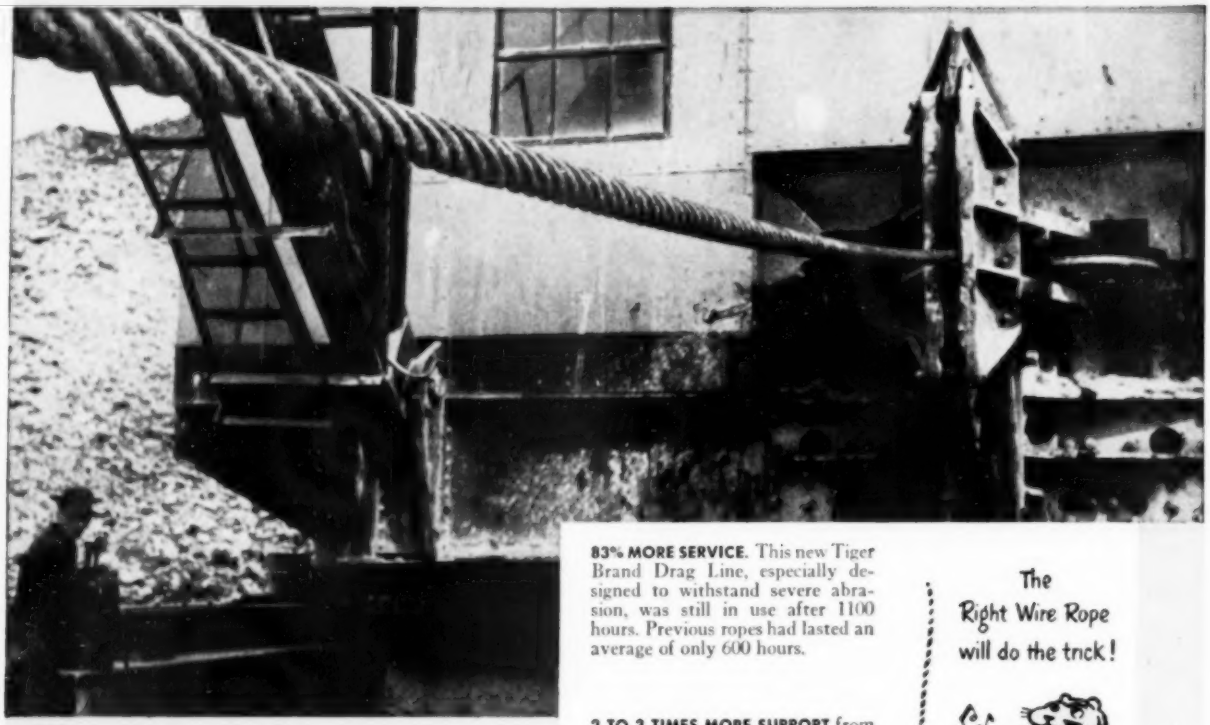
LACROSSE TRAILER CORPORATION, LaCrosse, Wis.

☐ Rush complete information on LaCrosse trailers:
☐ Specifications ☐ Prices ☐ Delivery
☐ Send name of nearest LaCrosse Distributor.
☐ We may buy a ..... ton trailer about .....
(date)

Name.....Title.....
Employed by.....
Address.....
City.....State.....

LaCROSSE
America's Favorite LOW BED TRAILER

Look at these amazing Tiger Brand records!



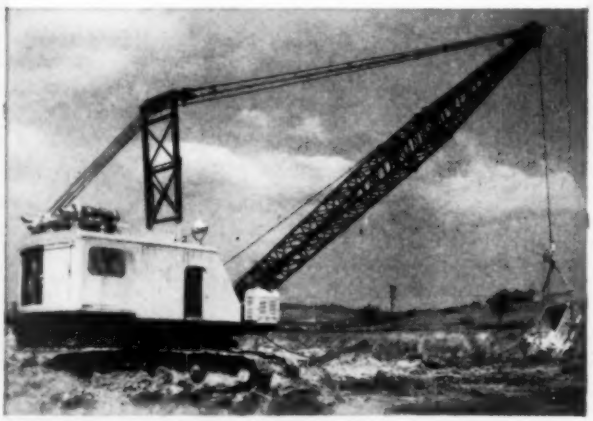
83% MORE SERVICE. This new Tiger Brand Drag Line, especially designed to withstand severe abrasion, was still in use after 1100 hours. Previous ropes had lasted an average of only 600 hours.

2 TO 3 TIMES MORE SUPPORT from these Tiger Brand Boom Supports. Interwoven ends distribute vibration over a long section of the rope instead of letting it concentrate at one point. As a result, these ropes last longer and cut boom support costs as much as 50%.

• Tiger Brand Wire Ropes are designed for the particular type of job on which they are intended to work. They have the needed balance of strength, toughness, flexibility and wear resistance. The quality is carefully controlled, from the iron mines to the finished product, and by our *own* engineers. Rigid tests and inspections at every step of the way guarantee a rope that matches the design specifications.

In addition, we maintain a staff of experienced Wire Rope Engineers to advise customers the correct rope to use, so that they get the best rope for every job.

Consult these men the next time *you* need rope. They can help you get longer service and cut rope costs.



AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL CORPORATION
GENERAL OFFICES: CLEVELAND, OHIO
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA., SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

U·S·S AMERICAN TIGER BRAND WIRE ROPE

Excellay Preformed

UNITED STATES STEEL

NOT in the *Contract*

A driver parked his truck along Skid Row. When he returned later, he found it blocked by a long, impressive Cadillac. Seeking the owner, he stepped into the nearest saloon and asked: "Anybody here own a Cadillac?

The most disreputable drunk in the place half-raised his head and softly asked:

"What color?"

She: "Why did you take up the piano?"

He: "My beer kept sliding off the violin."

Horatio: "We're not making any money on this amphitheater."

Nero: "Yeah, the lions are eating up all the prophets."

One Sunday evening a civil engineer took his best girl to church. When the collection was taken up the young man explored his pockets and finding nothing whispered to his girl, "I haven't a cent. I changed my pants." Meanwhile his girl, searching her bag and finding nothing, blushed red and said. "I'm in the same predicament."

Woman learning to drive: But I don't know what to do!

Her husband: Just imagine that I'm driving.

"I have an awful lot of electricity in my hair," said the shovel operator.

"No wonder — you've always got such shocking things on your mind."

Waiter: "You're not eating your fish. What's wrong with it?"

Customer: "Long time no sea."

The sergeant had just put the new recruits through their paces on an extremely hot day. As they flopped on the ground panting from the exertion, the sergeant looked at his watch and said.

"We've got another half hour to go and I don't know what to do with you."

One perspiring rookie had a suggestion: "There's some trees over there, Sir."

"Yes, I know," answered the weary instructor. "But there ain't any ropes."

She: "How about a date, big boy."

Tractor Operator: "Can't. Gotta go to bed and get some sleep."

She: "Why?"

Tractor Operator: "Tomorrow's my tough day. Gotta shave."

Diner: "Bring me some lamb chops and have them lean."

Waiter: "Yes, sir. Frontward or backward?"

Jimmy had returned from a party, and his mother, knowing his weakness, looked him straight in the eye and asked: "Are you sure you didn't ask Mrs. Smith for a second piece of cake?"

To which he replied: "No, mother, I only asked her for the recipe, so you could make some like it, and she gave me two more pieces of her own accord."

The civil service applicant applied for a position in the diplomatic corps.

"What makes you think you are qualified?" he was asked.

"I've been married 20 years," he answered modestly, "and my wife still thinks I have a sick friend."

A tramp knocked on the door of an inn known as "George and the Dragon." When the landlady opened the door the tramp asked:

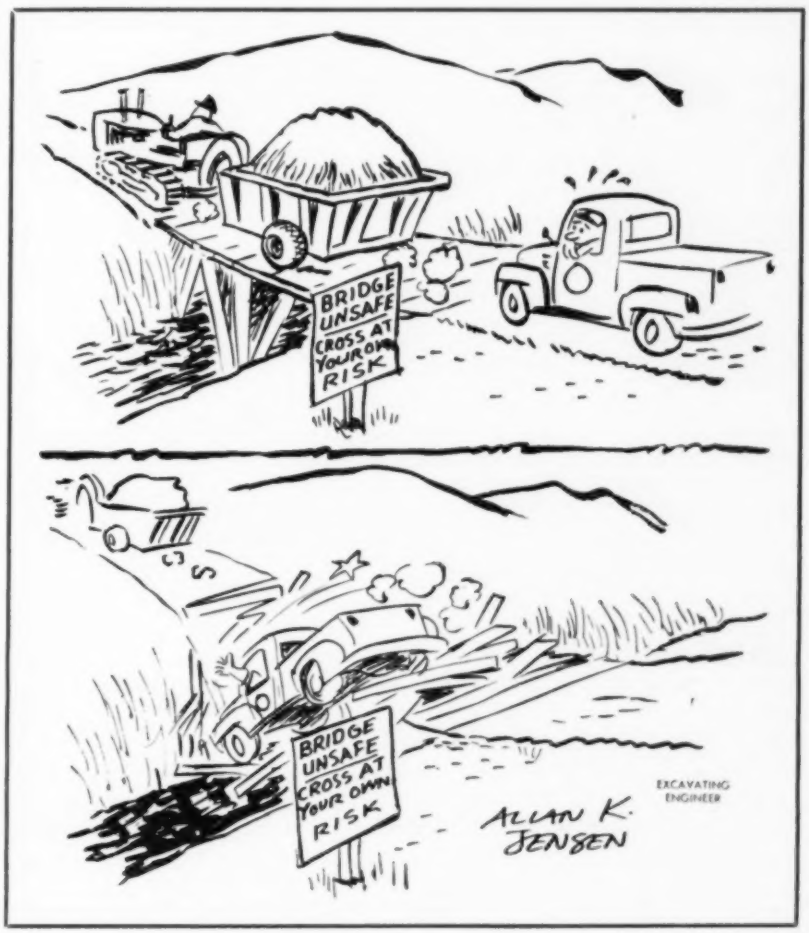
"Could you spare a hungry man a bite to eat?"

"No!" snapped the woman, slamming the door.

The tramp knocked again and slipped his foot in as the woman opened the door. "Could I speak to George?"

An equipment salesman, holed up in a small Wyoming town by a bad snow storm, wired his firm: "Stranded here due to storm. Telegraph instructions."

Back came the reply: "Start summer vacation immediately."



LIQUIDATION SALE!

THE COUNTRY'S TOP EQUIPMENT VALUES ...WHILE THEY LAST!

All late-model Caterpillar and Lorain equipment, used for Rental Service only. NOW for Sale at sacrifice prices!

Tractor-Dozer — Caterpillar Diesel D8, serial #2U10636, equipped with Cat 8A angledozer, #25 rear mounted DDCCU, #24 front mounted CCU, 22" track shoes, electric starting and lighting system, crankcase guard, and front pull hook. Hourmeter reading 3147. This tractor, new in late 1950, has just come from the shop where over $3000.00 was spent putting it in A-1 condition. Priced at nearly $10,000.00 under new.
FOB Ashland, Ky. **$14,850.00**

Crane—Clam—Dragline — Thew-Lorain L-50K, serial #22846. This hard-to-get 1 yd machine is powered by a Cat D318 Diesel engine and mounted on 14 ft. crawlers. Equipment includes 60 ft. boom and complete crane, clamshell, and drag attachments. Outfit was new April 9, 1952 and has a total hourmeter reading of 563 hours. Replacement value of this unit is $28,351.00. We are giving away this like-new machine at our special closeout price. FOB Paducah, Ky. **$22,000.00**

Tractor-Dozer—Cat Diesel D8, serial #2U11604, equipped with Cat 8S bulldozer, #24 CCU, Caterpillar #25 CCU, electric starting and lighting system, crankcase guard, front pull hook, and 22" track shoes. Hourmeter reading 3570. This machine, new in fall of 1950, is just out of our shop and is, we believe, in tip-top shape. Ready for toughest jobs. FOB Evansville, Ind. **$14,850.00**

Shovel—Thew-Lorain L-50J, serial #20798. This 1 yd. machine powered by Waukesha gasoline engine and mounted on 11 ft. crawlers. Shovel front has 19 ft. boom, 17 ft. stick, and 1 yd. dipper. Current selling price of this machine, which was new in December 1950, is $24,589.00. Just finished putting in the best possible condtion at a cost of over $4750.00.
FOB Louisville, Ky. **$14,500.00**

TERMS: The Agents will, if necessary, finance many of these items to responsible parties on terms customary in the trade—either conditional or mortgage sales; or, in certain cases, leases with options. Prices are NET, F. O. B. RAILROAD CARS.

Scraper—Caterpillar No. 80, serial #2D2104, curved bottom type with pusher block, and mounted on two 24.00 x 29 24-ply rear tires and two 21.00 x 24 16-ply front tires. This scraper, which would sell new for $14,872.65, has barely been used. Another hard-to-believe value in this closeout sale.
FOB Louisville, Ky. **$9,900.00**

Tractor—Caterpillar Diesel D8, serial #2U11997, with Caterpillar 8A angledozer, Cat #25 cable control unit, electric starting and lighting system, crankcase guard, front pull hook, and 22" shoes. Put new in rent December 10, 1950. Hourmeter reading 3008 hours. $2500.00 has just been spent putting this machine in like new condition. FOB Louisville, Ky. **$14,900.00**

Shovel—Thew-Lorain L-50I, serial #21244. A 1 yd. crawler, powered by GMC Diesel engine, and mounted on 12 ft. tracks. Shovel equipment consists of a 19 ft. boom, 17 ft. stick, and 1 cu. yd. dipper. $4,411.00 has just been spent in reconditioning this machine. Some early bird will grab this bargain.
FOB Paducah, Ky. **$15,900.00**

Photos and Full Descriptions of any Machine Air-Mailed on request — call Louisville, WAbash 6803

Compressor—500 ft. Gardner-Denver, serial #146622, portable, powered by Cat Diesel D13000 engine, and mounted on four pneumatic tires. This beautiful compressor was new in fall of 1950. Hourmeter shows 4581 easy hours. A similarly equipped new compressor sells for $12,945.00. Compare!
FOB Louisville, Ky. **$6,250.00**

Motor Grader—Cat Diesel No. 12, serial #8T5755, equipped with hydraulic steering booster, 11-tooth V-type scarifier, electric starting system, and the large tire group—six 13.00 x 24 12-ply tires. Hourmeter reading on this $15,000.00 Motor Grader is 913 hours. FOB Louisville, Ky. **$8,750.00**

Tractor—Caterpillar Diesel D8, serial # 2U13590, equipped with Caterpillar 8A dozer, #25 cable control unit, electric starting and lighting system, crankcase guard, front pull hook, and 22" shoes. We put this machine out on rent March 21, 1951. Hourmeter shows 3418 hours. Checked over and put in A-1, first class condition at a cost of over $4500.00. A real buy.
FOB Ashland, Ky. **$15,000.00**

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R. D. EZELL and NELSON HELM, *Agents*

for former stockholders of the

OHIO VALLEY EQUIPMENT COMPANY

800 West Main St. • Louisville, Ky.

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TO INQUIRE: Be sure to address your inquiry to the advertiser by using the correct box number. Mail your letter in care of Excavating Engineer, South Milwaukee, Wisconsin. Write each advertiser a separate letter. Do not write us for name and address of advertiser. This information will not be given out. We have no information about the equipment advertised other than that shown in the advertisements themselves.

LARGE SHOVELS, CRANES AND DRAGLINES

2½ YDS. AND UP

Bucyrus-Erie 5-W Walking Dragline, Diesel power, Serial No. 675, 120-ft. boom, two 5-yd. type AX buckets. Shipped from factory October 1945. Excellent condition.

Box 3519

Bucyrus-Erie 120-B Shovel serial no. 15941, with 5 yd. Esco dipper. In good operating condition. Location—West Coast. Price $100,000 F.O.B. cars.

Permanente Cement Co.
Permanente, California

Marion type 7200 diesel walking dragline with 7-yd. Hendrix bucket and 120-ft. boom. Good condition. Location Middle West.

Box 3522

2—9-W Bucyrus Monighan Draglines.
1—5-W Bucyrus Monighan Dragline.
1—200-W Bucyrus Monighan Dragline.
1—120-B Bucyrus Elect. Dragline & Shovel.
1—44-B Bucyrus Dragline & Shovel.
1—9-W in Ohio—others in Wash. & Idaho.

J. A. TERTELING & SONS, INC.
Box 1428 Ph. 4-3576 Boise, Ida.

Page 625 diesel walking dragline. 150 ft. boom, 9 cu. yd. bucket, 4 years old. Good operating condition. Price $150,000. Loaded on cars. Location Middle East. Box 3486

Page 625 Electric Walking Dragline, 150-ft. boom, 9-cu. yd. bucket. Excellent operating condition. Price $150,000 f.o.b. cars. Located Middle East. Available approximately May 1, 1953. Box 3504

SMALL SHOVELS, CRANES AND DRAGLINES

UP TO 2½ YDS.

10-B ¾-yard Bucyrus-Erie Dragline, Serial 21575, with Buda gas power. 35-ft. boom. ⅝-yard Red Arch Bucket. Completely overhauled. In excellent shape. $6,000.00.

Box 3517

10-B Bucyrus-Erie ⅝-yard Dragline, Serial 12427, powered by Allis- Chalmers gas. Complete with 28-ft. boom. ⅝-yard bucket. Completely overhauled. $5,000.00.

Box 3518

Bucyrus-Erie Model H-3 Hydrocrane. Used less than four weeks. Complete with crane-clamshell equipment — 3/8 yd. clamshell bucket and backhoe equipment. Mounted on Chevrolet two ton, two speed axle truck. Price, $10,000 cash f.o.b. Albany, Ga.

Box 3524

Lorain Model No. 77 shovel with 2½ cu. yd. Amsco bucket. Caterpillar Diesel engine. $3800.00 in repairs since use. Sale Price F.O.B. Louisville, Ky. $13,900.

Box 3526

Bucyrus-Erie 46-B dragline excavator Buda diesel power, 50-ft. boom, oversize caterpillars. Machine working. Central South. For inspection and price information contact:

Carmichael Coal Company
P. O. Box 707
Jasper, Ala.

Lorain Model L50J lifting crane and 60 ft. boom, pendant suspension 15 ft. jib, powered with Caterpillar Mdl. D-318 Diesel engine. Machine is 2 years old. Very good condition. RSP-194 (B). Sale Price F.O.B. Paducah, Ky. $14,000.

Box 3525

Bucyrus-Erie 44-B shovel with 24-ft. boom, 19-ft. handle, 2-cu. yd. dipper. Clamshell and lifting crane equipment including 100-ft. boom, Buda Diesel engine. Excellent condition. For further information contact:

D. D. Kennedy, Inc.
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P. O. Box 278 Bellwood, Ill.
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"Quick-Way" Mdl. "J" (3 ton crane, ¼ cu. yd. shovel). International U-4 gasoline engine. Mounted on 4 x 6 tandem GMC truck with 7.50 x 20 tires. Equipped with shovel front and 20 ft. boom, dragline bucket, and all necessary equipment for dragline operation. RS-2247 (C). Sale price F.O.B. Louisville, Ky. $4,500.

Box 3528

Northwest Model 105 combination shovel and crane. Serial No. 2238. Gasoline engine Twin City. S-6000 (C). Sale price F.O.B. Louisville, Ky. $3800.

Box 3529

Bucyrus-Erie Mdl. 22-B Base Machine only complete with fully enclosed steel cab. Independent power boom hoist. Caterpillar mounting 12 ft. ⅝ in. long overall, 9 ft. 4 in. wide overall, 26 in. wide tread. Powered by Buda K-428 6 cylinder gasoline engine with electric starter and 3450 lb. cast iron ballast. RS-394 (A). Sale price F.O.B. Evansville, Ind. $12,500.

Box 3527

Northwest model 25; 6; 80D; 95. Manitowoc 6500; 4500 new — will rent. Bucyrus 54-B; Monighan 5W; 7W; 9W; 450.

A. W. Nevers Phone 32 Mt. Pleasant, Iowa

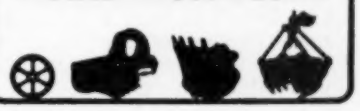
Bucyrus-Erie Mdl. 22-B Base Machine only complete with fully enclosed steel cab. Independent power boom hoist. Caterpillar mounting 12 ft. ⅝ in. long overall, 9 ft. 4 in. wide overall, 26 in. wide tread. Powered by Buda K-428 6 cylinder gasoline engine with electric starter and 3450 lb. cast iron ballast. RSP-126 (B). Sale price F.O.B. Paducah, Ky. $12,000.

Box 3530

Lorain Mdl. 50-I Dragline rated at 20 ton with maximum cwt. Crawlers overall length 12' 0" overall width 10' 6" with 30-in. pads, power lowering. Powered by Caterpillar D-318 diesel engine with fluid coupling (with 2205 hours) complete with 1 cu. yd. Hendrix type TS drag bucket. Sale price F.O.B. Evansville, Ind. $18,500.

Box 3531

MISCELLANEOUS EQUIPT.



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One new Hayward heavy standard 1 cu. yd. orange peel bucket. In original crating (1/3 off List Price)—$1500.

One Sauerman light weight 2 cu. yd. scraper bucket model US-780. Used only 12 hours in sand excavation (1/3 off)—$850.

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ALLIS-CHALMERS HD-7W Tractor with Baker Grade-builder.
BUCYRUS-ERIE H-2 Hydrocrane.
BUCYRUS-ERIE 22-B Shovel with General Motors Diesel Engine.
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Bucyrus-Erie 60-ft. boom. Drum with steam ram and levers to convert 41-B steam shovel to crane work.

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For Sale

Walking draglines, 9W, 7W, 6W, 5W, 200W, 3T
Bucyrus 120-B electric shovels, 4½—5 yds.
P&H 1055 diesel dragline, 110' bm., 3-yd. bkt.
Bucyrus 54B, Marion 92M 2½-yd. diesel shovels
Whirley portal gantry cranes, 35-50 tons
Shovels, draglines, cranes, 1½ to 18 yds.
Locomotives, 7 to 80 tons, diesel, gasoline
Derrick boats, 80, 30, 15 tons, steam
Nordberg—G.E. 875 KW diesel elec. gen. set
Bucyrus 55B or 52B 2-1/3 yd. shovel attach.

H. Y. SMITH COMPANY
828 N. Broadway — Milwaukee 2, Wis.

One new shovel attachment complete for 304-1A Koehring Dragline-Clamshell, ⅝ yard capacity. Serial No. C-5110. Price: F.O.B. Omaha, Nebraska. $3,200.00. Subject to prior sale.
Box 3521

Two Model 29-T Bucyrus-Erie electric blast hole drills with tools. Excellent condition.

Basic Refractories, Inc.
Maple Grove, Ohio

Miscellaneous lot of new GA-2 shovel parts available at great savings. List will be sent on request.

Stuart M. Christhilf & Co., Inc.
134 W. Mount Royal Ave.
Baltimore 1, Maryland

Model 29-T Bucyrus-Erie Blast Hole Drill with tools for 9-ft. diameter holes, gasoline powered, approximately six years old and in good condition. Located: Central Pennsylvania.
Box 3520

WANTED TO BUY

Wanted: Oversize caterpillar mounting for Bucyrus-Erie Model 44-B. Box 3489

POSITION WANTED

As engine rebuilder with coal mining company. Have my own equipment for engines up to 5¼ bore, and portable shaft grinder up to 3½-in. diameter. Can also operate shovels and draglines. Have 30 years experience in open pit mining. Box 3523

Notes from the manufacturers

Allis-Chalmers Manufacturing Co., Milwaukee, Wis., recently announced the following appointments: Myron W. Rhoten as territory sales manager for the European area; Clyde Crozier to Rhoten's vacated position, export service manager; and Walter A. Hebeler as export sales manager. Rhoten joined the company at its Sioux City, Ia., branch in 1938. He was later transferred to the Madison, Wis., branch and then came to the home office in 1941. Crozier has been with the company since 1941, starting with the Los Angeles, Calif., branch where he was service representative and manager. Hebeler has been a special export representative for the tractor division since 1950. He joined Allis-Chalmers at the Kansas City branch in 1933 and later was transferred to the Des Moines, Ia., branch. Hebeler was made industrial sales manager in the Buenos Aires, Argentina, branch in 1936 and was appointed general sales manager there in 1940. During World War II he was on leave of absence to the United States Embassy in Buenos Aires. He became a branch manager for the company in 1946 and returned to the home office at Milwaukee in 1950.

Caterpillar Tractor Co., Peoria 8, Ill., has announced the establishment early in 1953 of a special representative in Paris. J. Robert Hawk, currently manager of the company's New York office, fills the position. Hawk will maintain greater continuity of contact with American military and other governmental organizations in Europe such as the Mutual Security Administration and the North Atlantic Treaty Organization. An Illinois native, Hawk was graduated from the school of business administration at Northwestern university in 1939 and joined Caterpillar in 1947 after four years active duty in the U. S. Naval Reserve. Hawk will be succeeded as manager of the New York office by John B. Wilson who is currently district representative for the company in Mexico. A mechanical engineering graduate from Alabama Polytechnic Institute, he served in the U. S. Air Force during World War II and joined the company in 1946 as a college graduate trainee. He was assigned as a field engineer in Mexico in 1948 and became a district representative in 1950.

L. B. Foster Co., Pittsburgh, Pa., announced recently that Byron L. Foster has been elected president of the firm which is a supplier of steel sheet piling, railroad trackage, and pipe. He succeeds Lee B. Foster, who founded the firm a half century ago and who now becomes chairman of the board of directors. The firm also has offices and warehouses in New York, Chicago, and Houston.

Goodyear Tire & Rubber Co., Akron, O., has named R. B. Warren manager of the industrial products departments. L. W. Adams has been promoted to Warren's former post as southern sales manager, industrial products division. Warren joined Goodyear in 1927 after being graduated from Ohio Wesleyan university. In 1933 he became an industrial products field representative in Atlanta, Ga., transferring to New York in 1938. He served as assistant head of the Navy rubber director's office from 1942 to 1945, holding the rank of lieutenant-commander. Warren was industrial products district manager at Pittsburgh from 1947 to 1949 before becoming southern sales manager. Adams, who has been Pittsburgh district manager for Goodyear's industrial products division since 1949, joined the firm in 1943 as an industrial products clerk. Later that year he was assigned to the Boston district as a field representative. He attended Carnegie Institute of Technology.

Harnischfeger Corp., Milwaukee, Wis., has announced the promotion of Gordon E. Leopold to district manager of its Minneapolis office. Leopold was assigned to P & H's Minneapolis staff in 1951 after making an excellent record in both the large and small excavator sales divisions at the company's home office. During World War II, he saw service in the South Pacific with the Navy, returning from his leave of absence in 1945. The new district manager joined Harnischfeger in 1941. He is a graduate civil engineer having received his degree from Marquette University in 1940.

Wellman Engineering Co., Cleveland, O., has named Fred B. Shew sales manager of its bucket department. Shew will supervise the national distribution of the company's line of "Williams" clamshell and dragline buckets, log and stone grabs. Shew has been transferred to the home offices in Cleveland from the Chicago office of Wellman where he served as district manager. Previously he served as district manager of the New York office.

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NEW AND GUARANTEED REBUILT EQUIPMENT
MOTORS TRANSFORMERS GENERATORS DIESELS
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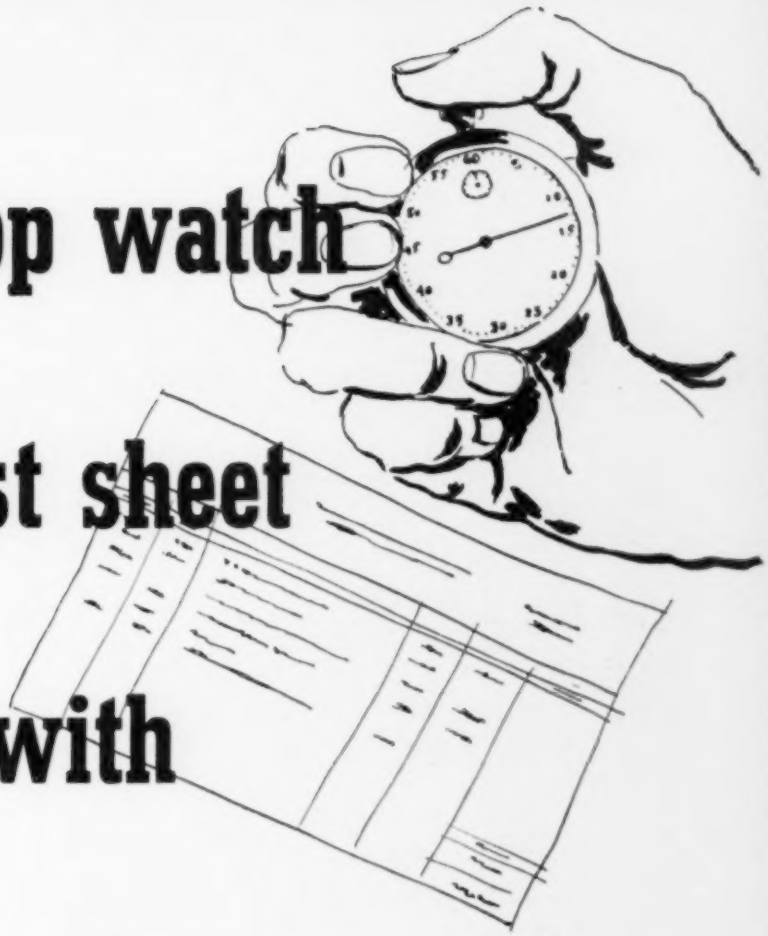
ROCHESTER 1, NEW YORK
Explosion Proof Motor Headquarters

8-yd. Marion Electric Shovel, Type 300
Inspection Invited — Michigan

Use your stop watch and your cost sheet on your job with CAT* equipment



THERE'S one way to find out whether you're making all the profit you're entitled to. Get out your stop watch and cost sheets. Tally your cycle times and production figures. Check your down time and the resale value of your machines. These figures will convince you of Caterpillar superiority.

Your Caterpillar Dealer will give you an on-the-job demonstration. Fair enough? Call him today.

Caterpillar Tractor Co., Peoria, Illinois.

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PREFORMED WIRE ROPE

Which wire rope provides *a well-marked route* to sustained production?

Wire-rope users who get around know the answer to that. Like an unmistakable highway sign, the familiar yellow of Preformed Yellow Strand gives you confidence that you're headed where you want to go. The limberness of this kink-resistant rope contributes to a smooth run. Its toughness keeps a long interval between stops for checking or replacement. Most important, an installation recommended by our engineers is designed to bring out the true capacity of your equipment—and only working machines pay off. Let's talk over the possibility of stepping up your wire-rope service.

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